United States Court of Appeals
for the Second Circuit

JOINT APPENDIX

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P/S

76-4044

United States Court of Appeals

FOR THE SECOND CIRCUIT

No. 76-4044

BOC INTERNATIONAL LIMITED, f/k/a The British Oxygen Company Limited, BOC FINANCIAL CORPORATION, BOC HOLDINGS, LIMITED, and BRITISH OXYGEN INVESTMENTS, LIMITED,

Petitioners,

—against—

FEDERAL TRADE COMMISSION,

Respondent.

No. 76-4045

AIRCO, INC.,

Petitioner,

—against—

FEDERAL TRADE COMMISSION,

Respondent.

ON PETITIONS FOR REVIEW OF AN ORDER
OF THE FEDERAL TRADE COMMISSION

JOINT APPENDIX, VOLUME 6
PAGES A2863 TO A3584
TRANSCRIPT

PAUL, WEISS, RIFKIND, WHARTON
& GARRISON
Attorneys for Petitioners
BOC International Limited, BOC
Financial Corporation, BOC
Holdings, Limited, and British
Oxygen Investments, Limited
345 Park Avenue
New York, New York 10022

SHEARMAN & STERLING
Attorneys for Petitioner
Airco, Inc.
53 Wall Street
New York, New York 10005

OFFICE OF THE GENERAL COUNSEL
Federal Trade Commission
Washington, D.C. 20580

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JOINT APPENDIX

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Volume 10—In Camera Filings*

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BEFORE THE FEDERAL TRADE COMMISSION

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In the Matter of: :

BRITISH OXYGEN COMPANY, LTD., BOC : Docket No.
FINANCIAL CORPORATION, BOC HOLDINGS, LTD., 8955
BRITISH OXYGEN INVESTMENTS, LTD., AIRCO, INC.

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Hearing Room D
26 Federal Plaza
New York, N.Y.
Wednesday, June 12, 1974

Met, pursuant to notice, at 9:30 a.m.

BEFORE: Ernest G. Barnes, Administrative Law Judge

K. KEITH THURMAN, GORDON YOUNGWOOD, DON PURCELL, DARYL NICKEL, RHETT KRULIA and JOHN HOAGLAND, On behalf of the Federal Trade Commission

JAY H. TOPKIS, LEWIS A. KAPLAN and MOSES SILVERMAN, Paul, Weiss, Rifkind, Wharton and Garrison, 345 Park Avenue, New York, New York, 10022, on behalf of Respondent, British Oxygen Company, Ltd.

FOSTER WOLLEN, R. BRUDE MAC WHORTER and DANFORTH NEWCOMB, Shearman and Sterling, 53 Wall Street, New York, New York, 10005, on behalf of Respondent AIRCO, Inc.

ROBERT L. DOAN, assistant general counsel, Union Carbide Corporation, 270 Park Avenue, New York, New York, and
ALEXANDER W. SIEROK, Wald, Harkrader and Ross, 1829 19th Street, N.W., Washington, D.C., 20938, on behalf of Union Carbide Corporation

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JUDGE BARNES: We will commence the hearing at this time.

MR. TOPKIS: Your Honor, perhaps the first thing I might do is call the court's attention to a decision just handed down by the Second Circuit on Monday, I believe, Missouri Portland Cement agains Cargill, a Section 7 case which, I think, presents and resolves an extraordinary number of issues which your Honor will have to consider. I think you might find it helpful.

JUDGE BARNES: Is this an extra copy?

MR. TOPKIS: Yes. We will supply an extra copy to our friends as soon as we have it made.

The case is indeed interesting in that it causes me to realize that is is the thinking of the Second Circuit that a company so sizable as Airco might be a toehodl, I hadn't realized that before, but I am always ready to learn from my betters, when they happen to be sitting on appellate courts.

Now, your Honor, if we may, we would like to offer a number of exhibits because they would be useful in the testimony of witnesses to be heard today. May I proceed with that?

JUDGE BARNES: Certainly.

MR. TOPKIS: First, your Honor, we would like to offer BOC Exhibits 44 through 53 which are census bureau current industrial reports related to industrial gases for the last ten years, really. I don't know whether there is any objection to them or not.

MR. THURMAN: We would like to know the purpose of going back so far.

JUDGE BARNES: Mr. Topkis?

MR. TOPKIS: I go back 10 years because 10 years seems like a reasonable time to go back. This is to show what the situation was according to the census.

JUDGE BARNES: Are these production figures reports of industry trends or anything like that?

MR. TOPKIS: No, your Honor. They are production and shipment calculations by the census, of the various industrial gases.

MR. THURMAN: It is very interesting and most certainly we will not object to census documents. I am just surprised that it is not made as to the accuracy of the other census figures -- the reliablility of other census reports put in.

JUDGE BARNES: I think you ought to say "no objection."

MR. THURMAN: No objection, your Honor.

JUDGE BARNES: I will receive BOC RX 44-A through F, 45-A through F, 46-A through D, 47-A through H, 48-A through H, 49-A through H, 50-A through K, 51-A through K, 52-A through L, and 53-A through H in evidence.

(BOC RX 44A-F, 45A-F, 46A-D, 47A-H, 48A-H, 49A-H, 50A-K, 51A-K, 52A-L, and 53A-H received in evidence.)

JUDGE BARNES: Go ahead.

MR. TOPKIS: We would like to offer BOC Exhibits 55-A to C and 56-A to C, all of which are excerpts from the annual statistical report of the American Iron & Steel Institute for the years 1970, 1971 and 1972, and in order to anticipate a question from our adversaries, let me say that the exhibits record the production and use of oxygen by the steel industry during those years.

JUDGE BARNES: As reported to the institute?

MR. TOPKIS: Right, sir.

JUDGE BARNES: Any objection?

MR. THURMAN: Normally we would have an objection but I think we have a stipulation that we won't object.

MR. TOPKIS: I thought so.

JUDGE BARNES: We did not receive any of these reports previously, these are the first?

MR. TOPKIS: Right.

JUDGE BARNES: I will receive BOC RX 54-A through C, 55-A through C, and 56-A through C in evidence.

(BOC RX 54A-C, 55A-C, and 56A-C received in evidence.)

MR. THURMAN: This is not for the truth of these but what they reported the production was.

JUDGE BARNES: That is correct.

MR. TOPKIS: I would suggest, rather, that they are not conclusive on the subject but they are evidence.

JUDGE BARNES: They are evidence on the subject, that is correct.

MR. TOPKIS: Now, your Honor, we have a series of annual reports of companies with which we are dealing here and the first are BOC Exhibits RX 28 through 39, which relate to -- they are scattered, but they relate to various of the companies with which we are here dealing. And I may say that we are dealing with 28 through 39, 74 thorugh 111, 186 through 18 and 212 through 216.

JUDGE BARNES: These are all annual reports?

MR. TOPKIS: Yes, of the companies engaged in the gases field that we have been discussing here.

JUDGE BARNES: Any objection to these annual reports, Mr. Thurman?

MR. THURMAN: Well, certainly, I normally object to annual reports because I don't think they are the best evidence or reliable. I believe there was a stipulation at which I wasn't present at but I think we stipulatdd that we wouldn't object to the findings data in there, that is what the company reported as its financial data. The other we will object to as self-sevving statements.

MR. TOPKIS: And I don't offer them for that.

MR. THURMAN: I would object as to relevancy of going back so far. It seems to me how the market was in '72 and '73 would be the relevant data in this case. I don't know why we are going back several years. We object on relevancy.

JUDGE BARNES: We have a number of exhibits in the record going back to '68, I believe. The Perham-Greenfield report is 1970, I believe.

MR. TOPKIS: Check, your Honor.

MR. THURMAN: We put in the study going out. I don't think it was relevant at that time, either. Maybe we didn't make the relevant objection at that time. I don't see where 1966 is relevant to this case. Our objection is on relevancy of going back that far. We have no objection for the reports going in for '72 and '73, the current years where this case should be judged. They even have some '63 annual reports. It is going back considerably, going back from '63 to '74. I assume all of them go back to '63. I notice in BOC RX 212, it starts with '63 for Air Products.

MR. TOPKIS: To the degree they are available, yes. I think there were a couple of companies that didn't publish annual reports in '63. We wanted to get 10 years, on the theory that if your Honor wants to consider 10 years you can.

JUDGE BARNES: I will receive BOC RX 28-A through Z2, 29-A through Z, 30A through V --

MR. THURMAN: Your Honor, are you receiving all of it even though they are only offering the financial data?

JUDGE BARNES: This is correct. There is no point in breaking them apart now.

31-A through T, 32-A through O, 33-A through K, 34-A through O, 35-A through S, 36-A through Z, 37-A through Z, 38-A through Z, 38-A through Z.

I will receive in evidence BOC RX 74-A through Z6, 75-A through Z9, 76-A through Z6, 77-A through Z-3, 78-A through Z2, 79-A through Z, 80-A through Z, 81-A through Z9, 82-A through Z10, 83-A through Z17, 84-A through T.

MR. TOPKIS: May I pass this one while we have it numbered, your Honor?

JUDGE BARNES: Off the record.

(Discussion off the record.)

JUDGE BARNES: Back on the record.

RX 86A through Z2, RX-87-A through Z2, RX 88A through Z.

Now we will receive 85-A through Z and 89-A through P, RX 90-A through O, RX 91-A through O, RX 92-A through P, RX 93-A through P, RX 94-A through Z11, RX 95-A through Z9, RX 96-A through Z19, RX 97-A through Z10, RX 98-A through Z14, RX 99-A through Z17, RX 100-A through Z15, RX 101A through Z17, RX 102A through Z14, RX 103 -A through Z14, RX 104-A through Z19, RX 105A through Z11, RX 106-A through Z10, 107-A through Z16, RX 108-A through Z4, RX 109-A through Z12, RX 110-A through X, RX 111-A through V.

Then I will receive in evidence BOC RX 186-A through Z6, 187-A through X, 188-A through W.

I will receive in evidence BOC RX 212-A through N, 213-A through Z3, RX 214-A through Z2, RX 215-A through L -- it is 215-A through M and RX 216-A through L.

(Above exhibits marked in evidence.)

MR. TOPKIS: Now, your Honor, we would like to offer a series of FTC Quarterly Financial Reports for manufacturing corporations, Exhibit 166 through 176.

JUDGE BARNES: Mr. Thurman, do you have any objection to these exhibits?

MR. THURMAN: Yes, your Honor. Our objection is relevancy. I have studied these and for the life of me I can't see how they are relevant to this case. There is nothing in there about industrial gas whatsoever.

MR. TOPKIS: These are to give us a base, your Honor. These quarterly reports indicate rates of return in all manufacturing industries. I believe also in chemical industries, and what we want to do is set them up as a base against which to compare rates of return in the business with which your Honor is concerned here.

JUDGE BARNES: Rates of return in chemical and allied products?

MR. TOPKIS: Yes, your Honor.

MR. THURMAN: We don't think so, your Honor. I don't think the assumption can be made.

MR. TOPKIS: I am sure the answer to that question is within the resources of the Commission.

MR. THURMAN: Unless your Honor takes judicial notice of this, just because it was something put out by the FTC certainly the underlying data would have to be present to show how it was prepared and what it means. Our objection would be further on relevancy, number one. Number two is the underlying data.

I don't know whether this is the time for argument or not now, but we don't know what "rates of return" means. This has been brought our many times, "rate of return on investment, rate of return on sales." Just what are we talking about?

MR. TOPKIS: It says rate of return on stockholder equity.

MR. THURMAN: They never brought in anything comparable.

JUDGE BARNES: I will receive these on judicial notice. These are reports put out by the Federal Trade Commission and they show whatever they show.

I will receive BOC RX 166-A and B, 167-A and B, 168-A, B. 169-A,B. 170-A, B. 171-A, B. 172-A,B. 173-A,B. 174-A, B, 175-A,B. 176-A,B.

I will receive these on the basis of judicial notice as publications being put out by the Federal Trade Commission.

(BOC RX Exhibits 166 through 176, as above-noted, received in evidence.)

MR. TOPKIS: With that, your Honor, we would call to the stand Dr. Andrew Kridl.

MR. THURMAN: Another thing, your Honor, this is only one page out of the whole report, we normally put the whole report in.

JUDGE BARNES: Wait a minutes, let me swear in the witness.

ANDREW G. KRIDL

was duly sworn by Judge Barnes and testified as follows:

JUDGE BARNES: Mr. Thurman, if you feel the entire report should be in or any other information connected with the quarterly reports, you may offer it in your rebuttal case.

MR. THURMAN: I know. But usually when we try to put one page of something in -- I have to keep referring back to what one does the other has to do, but when we put something in, respondent says no, the whole thing has to go in. I don't know what it means, anyway, so I am really not concerned with it.

JUDGE BARNES: If you have some exhibits in the record that I have received and you feel other pages should go in, call them to my attention.

DIRECT EXAMINATION

BY MR. TOPKIS:

MR. THURMAN: Your Honor, before this witness testifies, we would like to know if this witness -- we would like to move that other witnesses who are to be called later be sequestered.

JUDGE BARNES: Are there other witness who will be called?

MR. TOPKIS: Mr. Lionhardt is here and Mr. Cosgrove is here. Mr. Lionhardt is with the Boston consulting group and Dr. Cosgrove is with Ohio Medical.

JUDGE BARNES: I think Mr. Lienhardt ought to be sequestered.

MR. TOPKIS: Very well, your Honor.

BY MR. TOPKIS:

Q Dr. Kridl, by whom are you employed, sir?

A By Stamford Research Institute, other wise known as SRI.

Q What position do you hold?

A I am the director and chairman of the Center for Chemical Industry Economic Studies.

Q And is that center part of a larger unit within SRI?

A Yes, it is, it is part of the Economics Division within SRI.

Q And could you tell us, please, a little bit about SRI, in what form does it exist? Is it a corporation, a partnership, what?

A SRI is a non-profit institution that was set up on the West Coast following World War II to do research and assist government, both federal and local, and private industry originally, for the development of the West Coast. Since that time it has become international in scope. It is an organization, last year our billings were $70 million. There are some 2800 people employed in it and the field of activity spans everything from urban and social studies to work for the Department of Defense to physical sciences to work in economics of various industries.

Q Who runs it?

A This is not the easiest question to answer. Nobody, really.

Q Is there a board of some kind?

A We have a board of trustees which is composed of the leading industrialists on the West Coast. But the day to day running of the institute is pretty much on the center and department level.

Q You mentioned that you do work for both government and business?

A That is correct.

Q Could you tell us how your work breaks down in percentage terms?

A Institutewide, we do about 70 percent for the government, both U.S. and local, and 30 percent for industry.

Q You are being compensated for your appearance here today?

A Well, yes. That is to say I draw my regular salary.

Q And we are paying SRI your usual daily rates?

A That is correct.

Q Not at all contingent on the outcome of this controversy?

A No, sir.

Q Dr. Kridl, within SRI, where would the study of industrial gases fall, or where would the study of the economics of industrial gases fall?

A The study of the economics of industrial gases within SRI would fall within the Center for the Chemical Industry Economics Studies.

Q Which you head?

A Which I head, that is correct.

Q Would you please --

MR. THURMAN: I guess we are getting the cart before the horse again. I think he didn't bring up --

JUDGE BARNES: He said --

MR. THURMAN: There is where it would be if there was one.

Q Would you please tell us where you went to college and what you studied there? I don't want the courses.

A I have a bachelors degree from Wesleyan University in Middletown, Connecticut, and a master's degree and a doctor's degree in physical chemistry from Harvard.

Q When did you get your doctor's degree?

A 1950.

Q You are a member of Phi Beta Kappa?

A Yes.

Q Any other organization?

A Sigma Psi.

Q What is that?

A An honorary scientific society.

Q Did you do any other work other than your graduate work at Harvard?

A Yes, sir, I have taken several courses in economics, sciences and business.

Q Following your receipt of your doctorate in 1950, what did you do, Doctor?

A I joined Shell Development Company in California as a research chemist.

Q What did you do there?

A I was involved in mostly kinetic studies of various organic reactions.

Q How long did you stay in that task?

A About two years.

Q What did you do then?

A I was assigned to process engineering department.

Q What was that?

A That involved economic studies on preliminary design and economic studies on various chemical plants.

Q How long did you stay in that job?

A Three years.

Q And what did you do then?

A Then I was transferred to an operating company of Shell Chemical in Pittsburg, California.

Q What did you do there?

A There I was broadly responsible for all kinds of technical aspects of the plant's operation as well as for certain budgetary matters.

Q And how long did you remain in that --

A Two years.

Q What did you do then?

MR. THURMAN: Your Honor, we will stipulate that this gentleman is an expert chemical engineer or chemist.

MR. TOPKIS: That is only half of his expertise. I will bring out the other half in a moment.

A In 1957 I was transferred to Shell Chemical's economic research department in New York City.

Q What did you do there, sir?

A In that department we considered the desirability of Shell's entry into new fields.

Q From what standpoint did you consider it?

A From -- this was pretty much primarily from the business staddpoint and secondarily from a technical standpoint.

Q You were involved in both?

A Yes.

Q What did you do then, sir?

A In 1961, I was transferred to the plastics and resins division of Shell Chemical.

Q What did you do there?

A I was in charge, initially, of the introduction of polypropylene, which was a brand new product for Shell in the industry.

Q Did you study that from the economicand technical aspects?

A This study was done in the economic research department; after the study was finished I was transferred to the division to help bring this about.

Q What did you do then, sir?

A In 1963, I was hired by the then Diamond Alkali Company, presently Diamond Shamrock Corporation as corporate director of development.

Q What were your responsibilities?

A The responsibilities were primarily -- I was in charge of anything new, in effect, to the corporation. This included acquisitions, licensing, new product development, special economic studies, some government relations and so forth.

Q How long did you stay with Diamond Shamrock?

A Four years.

Q What did you do then?

A I joined Raychem Corporation in Menlo Park, California, initially as director of technical services and subsequently I became, in addition to it, the European sort of tebhnical director for the company, and then I was asked to start a brand new division of the company.

Q What was that?

A The division was called plastics add chemicals.

Q What were your duties in starting that new division?

A To get the corporation into a brand new field in which it was not participating before, mainly selling specialty compounded raw materials for other people to convert.

Q Did you consider both the business and technical sides of it?

A As general manager of that division, I had to consider all the aspects, manufacturing, marketing, finance and R & D.

Q How long did you stay with Raychem?

A Altogether, five years.

Q Until 1972?

A That is correct.

Q What did you do then?

A In 1972 I joined the Stamford Research Institute.

Q In what capacity?

A I originally joined them as a senior industrial economist. Two months later I became director of chemical industry economics department, and two months ago I became the chairman of the Center for Economic Chemical Studies.

Q Do you regularly advise businesses on possible acquisitions?

A Yes, sir.

Q Is that part of your responsibilities?

A It is.

Q Would you tell us how you go about rendering such advice?

A Normally speaking, when a company comes to us wishing to commission a study for a diversification by acquisition, we would first try to assess the inherent strength and weaknesses of the acquiring company.

Secondly we will try to get as much guidance from them as to what their basic criteria are. Then we initially normally choose several fields for potential diversification by acquisition, and in the middle of the study we narrow this to one or two fields, and then we investigate the various companies in that particular field that might be available, at least in principal, for acquisition, and then again narrow down the field to the companies that, in our opinion, are most worthwhile for being acquired, and of course this includes a good deal of financial investigation of the company's standing as well as its product line.

Q And that kind of study regularly comes within your area of activity?

A That is correct. That always comes within the Center for Economic Studies, it is done by the chemical economics department.

Q Under your supervision?

A That is correct.

Q Would you tell us, sir, do you have any familiarity with the field of industrial gases?

A Yes, sir.

Q Will you tell us how you acquired that familiarity?

A I acquired this familiarity in the following fashion:

During my year and a half tenure with SRI, we did a thorough study of the United States industrial gas market for a United States company that was -- the report was finished in early '73, and in the middle of 1973 we did a thorough study of the worldwide industrial gas market, including the United States, for a foreign company.

Q What was the purpose of the study for the domestic company?

A The purpose of this --

MR. THURMAN: Objection, your Honor. We are going into these studies again without presenting the studies and the backup material. He actually refused to give them to us. The witness won't talk to me without counsel being present. It was not his counsel.

JUDGE BARNES: He only stated now that he made studies.

M MR. THURMAN: He is starting into the purpose of the study itself.

JUDGE BARNES: He is starting into it. We will see the direction that it takes.

I will overrule your objection on this.

MR. THURMAN: Before we get into the studies, your Honor, this whole gentleman's background is technical, and he starts referring to "we" and he is talking about economics probably in his department. That doesn't mean that they don't make decisions on economics. He hasn't shown any degree of formal education, gaining expertise through economics. The Ph.D., the M.A., or whatever it was, the master's or bachelor's were all in chemical engineering or chemistry.

JUDGE BARNES: I believe his testimony is that from '67 to '72 he headed a plastics and chemical division and he was in charge of getting the corporation into new fields and he was in charge of all aspects of that, finance, planning, technical and marketing.

MR. THURMAN: He refers to "we." I think he ought to say what he has done. We have an expert director in charge of FTC but I don't think he can be called as an expert witness in economic matters as such.

JUDGE BARNES: I think so far the witness is qualified for his testimony.

MR. THURMAN: May we have a copy of this study at this time?

MR. TOPKIS: When we hear about the study.

MR. THURMAN: I have been hearing about it for the past couple of minutes.

JUDGE BARNES: You may proceed.

BY MR. TOPKIS:

Q The study you did for the domestic corporation, Dr. Kridl, what was the scope or what was its assignment?

MR. THURMAN: Objection.

Q What were you studying?

JUDGE BARNES: We will permit it.

A The primary objective of the study was to, first of all, reacquaint the company with the general field of industrial gases in the United States, and, b), to suggest potential means of entry.

Q You said "reacquaint." By that do you mean the company was not engaged in the industrial gas field at that time?

A That is correct.

MR. TOPKIS: I would like now, your Honor, to ask the witness to write on a piece of paper the name ofthe company and --

Q Would you do so, please, Dr. Kridl?

MR. THURMAN: We object to this.

JUDGE BARNES: He can write it on a piece of paper.

MR. THURMAN: Yes,he can, but where it goes frmo there --

MR. TOPKIS: Your Honor --

Q Please block print, if you will, Doctor.

JUDGE BARNES: Mr. Topkis, where are we going to go now from here?

MR. TOPKIS: Your Honor, I'm prepared to prove through this witness that SRI was commissioned by an American company and a French company, neither of them engaged in the industrial gases business at the time, long before this present controversy between the Commission and the respondents came up, to study the desirability and possibility of those companies entering the industrial gases business in the United States.

I would ask the witness to describe the companies in terms of their normal fields of interest and that is all I have in mind. I do this on the issue of potential entry, of course.

So far as the studies themselves are concerned, if my friend wants to see them, he can obtain them, I would imagine, from SRI. I don't have them. I haven't read them.

MR. THURMAN: Procedure in cases that I have tried, we have always been furnished the studies. It is not the responsibility of complaint counsel to get it. It is the responsibility of counsel who wants to get it in the record to get it for you.

Maybe we can stipulate that such and such had a study. If we had seen the study and knew what it was, we wouldn't have to clutter this record with huge studies.

MR. TOPKIS: I have no desire to clutter anything. All I want is the fact that a study was made. I have said that I haven't even read the study and I don't even know what its recommendation was. I should say studies.

I have been told by SRI that the studies were bought and paid for by the companies involved and they didn't want me looking at them.

MR. THURMAN: That doesn't serve our purpose. What they don't want or not -- if you are going to introduce something, subpoena it.

MR. TOPKIS: I am not going to introduce anything.

MR. THURMAN: Mr. Topkis all through this trial said "best evidence." We couldn't ask a witness something because the document was the best evidence, which I think is a ridiculous interpretation of the best evidence rule. We are willing to live withthat through this part of the case. I am surprised that he would ask this witness to talk about a study that we can't cross examine on. He might misinterpret the purpose. I would like to see in writing the purpose of this study. This may be something that we would want in the record. I can't go blindly cross examining him on something he says in very concise terms here and expect to properly cross examine him on that. It is just not proper.

We brought this up the other day. I would assume Mr. Topkis would have brought the documents in rather than just fighting this out.

JUDGE BARNES: I believe the studies should be made available to complain counsel for cross examination purposes. When cross examination is finished, he can turn the study back. This would be in the nature of a Jenks report. Presumbably a written statement by a witness, and it relates to his testimony.

MR. TOPKIS: Well, it is not a statement by the witness, your Honor, relating to the subject matter of his testimony.

I am right now qualifying the witness and I am also demonstrating that a study was made and that is all. And to know that a study was made, you don't have to know what books were studied nor what report was written. If I testified that I went to college, it is not proper cross examination to demand that I produce my reading list.

Further, I don't know that the Jenks rule is a two-way street. That was a rule designed for the purpose of protecting defendants and the consideration that defendants get in the average administrative and criminal proceeding. But the idea that defendants, in order to put evidence on, have to make background material and everything else available to the government -- I can't get that material right now from SRI. I spoke with their lawyer yesterday and he told me that they would consider a subpoena from complaint counsel. I suppose they have their remedies if they don't want to comply with the subpoena. I don't see why I should be hobbled in the presentation of my case by a witness whose identity has been known to complaint counsel for quite some time. We identified him weeks ago. If they had wanted to talk with him they could have talked with him weeks ago. They say I wanted to be there, well, absolutely true, why should I be there. If they had talked with him they would have found out -- the first thing I learned about Dr. Kridl is that he performed those studies, that is what made him interesting to me. They would have found out the same thing. It was their deliberate choice not to go see him.

We also offered to make him available here in New York. It is their choice. For them now to be complaining about the consequences of it, I can't follow that.

MR. THURMAN: Mr. Topkis is amazing in that he -- we tried to put something in. He said, "Don't put part of that document in, let's get the full story, let's get everything out on the table." Now he turns around and wants a very narrow statement by this witness which is contradictory to everything he ever said. The Jenks statement, as far as that was concerned, was to criminal cases. The Commission said, in fairness we will relate Jenks over to the administrative proceedings. They didn't say it was a one-way street to defendants. They said the fairness doctrine should work both ways, if that is the doctrine you are going on. It is true, a defendant in a criminal trial, there is only one man there and he should be protected under a Jenks statement. They would have no reason to take a defendant's statement in a criminal trial and give it to the prosecution. But a fairness doctrine going to an anti-trust suit should be a two-way street. I am very surprised that Mr. Topkis would say that we want this very narrow statement in here when throughout the trial he said let's put everything on the table.

As far as talking to this gentleman, I called him and wanted to talk to him and he said he would not talk to us without counsel being present. He talked to all of our witnesses without counsel being present.

MR. TOPKIS: That is not true.

MR. THURMAN: All that he wanted to.

JUDGE BARNES: I am going to rule that the Jenks Act is a two-way street and I am going to rule that since Dr. Kridl has testified what the objective was or what theobjectives were, and I believe that is the real purpose of his testimony, his testimony is not thathe made a study, that is unimportant that he made a study. The important thing is that he made it for a company and the purpose was to suggest areas for potential entry.

I am going to rule that the study --

MR. TOPKIS: If I may interrupt, your Honor, it was not to suggest areas but whether to enter, I think that is what the witness said. But, forgive my interruption.

JUDGE BARNES: I think the studies should be made available to complaint counsel for cross examination purposes. The study has not been offered and I assume complaint counsel will not offer it. I think they should have it for cross examination purposes.

MR. TOPKIS: I don't have it.

MR. THURMAN: We would like the backup material, too.

MR. TOPKIS: I don't have that in my possession either.

MR. THURMAN: Mr. Topkis said last Friday that no more studies would be mentioned.

MR. TOPKIS: I said no studies would be offered. That is a very different statement. These studies were **private** studies, bought and paid for, and they paid a lot of money for them, if I know SRI's rates.

JUDGE BARNES: The studies will not be made public. I would like them produced for cross-examination of the witness.

MR. TOPKIS: I assume SRI can't produce them without the **clients'** approval. I will accept your Honor's guidance.

JUDGE BARNES: We will have to recall Dr. Kridl.

MR. TOPKIS: Could I have a moment or two to confer with my colleagues?

JUDGE BARNES: Yes. Let's take a ten-minute recess.

(Recess.)

JUDGE BARNES: On the record.

MR. TOPKIS: If your Honor please, as a result of giving us an opportunity to confer, we worked out a position which I hope you will find appropriate. While we disagree with your Honor's ruling, of course, we bow to it. I really don't know what would happen if we tru to get those documents from SRI. As I told your Honor, their counsel told me yesterday that they would be produced in response to a subpoena or they would take a position in response to a subpeena, but at present they regard them as the property of the clients who commissioned them and they will not be turned over voluntarily. Therefore, your Honor, having made my offer of proof, saying what I would be prepared to prove, I would now move to strike so much of Dr. Kridl's testimony as having performed those studies and pass on to other matters, rather than have any obligation put on me to go get, what, for all I know, may not be able to get. I want to get done with Dr. Kridl and this trial.

JUDGE BARNES: The portion of histestimony relating to a study for both a domestic and foreign company will be stricken from the record; is that correct?

MR. TOPKIS: Yes, your Honor.

JUDGE BARNES: All right.

Let me just ask a question here. Are you going to proceed now and ask him to give expert testimony on the basis of this record?

MR. TOPKIS: On the basis of his experience, not necessarily related to these two companies, but on the basis of his having been involved in advising companies on acquisitions for many, many years, having headed that activity for Diamond Shamrock, having been involved in the same kind of activity in other assignments and responsibilities. I will come to that subsequently, that is not what I am going to right now. But, yes, I am certahly going to ask his opinion.

JUDGE BARNES: I will let you proceed.

MR. TOPKIS: Just to get my offer of proof out so the record may be perfectly clear, may I state that we would be prepared to prove that the domestic company with which we are concerned is a company that is engaged currently not in the industrial gases business but in the pipeline business. That it has resources of between a half a billion and a billion dollars. So far as the foreign corporation is concerned, we would be prepared to prove that the company with which we are there involved is engaged in a whole range of activities, that it has annual sales in excess of two and a half billion dollars and that it is not, at the present time, in the industrial gases business, although it is in just about everything else that you can think of.

MR. THURMAN: Excuse me, your Honor, I guess I was sitting here asleep.

Is that an offer of proof?

MR. TOPKIS: Yes.

MR. THURMAN: We would ask that the offer of proof come from the witness in a narrative statement. I realize that it is optional, as to whether your Honor will accept a narrative statement or a question and answer from the witness, but we might want to do some cross examination of the witness on an offer of proof. Maybe I can make some statements on Mr. Topkis' offer of proof.

JUDGE BARNES: I don't think it is proper for cross exmination of an offer of proof.

MR. THURMAN: I have done it many times. The offer of proof is in there for any reviewing authority that might want to consider it and certainly if they did consider it, there would have to be some type of cross on that or remanded maybe for further hearing.

JUDGE BARNES: I will let the record stand as it is now.

BY MR. TOPKIS:

Q Now, Dr. Kridl, there has been testimony here --

MR. TOPKIS: And if your Honor will indulge me, I will lead just a trifle because I think this is something that is beyond dispute --

Q There are atmospheric gases, they are called oxygen, nitrogen, hydrogen -- they are produced by cryogenics --

MR. THURMAN: We want to know what this witness knows. We don't want Mr. Topkis to testify. I don't know whether he knew it. He knows it now.

MR. TOPKIS: This gentleman has a Ph.D. and my friend thinks this is something which is a secret kept from the witness. I was going to ask the witness to go on from there.

Q Tell us, please, how the atmospheric gases are generated commercially.

A By distillation of air.

Q Is there a special type of distillation?

A Yes. It is a low temperature distillation normally referred to as cryogenic.

Q Would youtell us, please, how hydrogen is generated?

A Well, hydrogen is generated in a variety of ways. It can come from steam reforming of natural gas in ammonia production. It can come as a result of petroleum refining operations. It can also come as a result of electrolysis of salts, for example, in the production of caustic and chlorine.

Q You speak of reforming of natural gas and you do that toward what end?

A This is a standard commercial process for making ammonia.

Q And would you characterize that as one of the more or less important processes in making hydrogen?

A I would -- I'm sorry, Mr. Topkis, that is a difficult question.

To make pure hydrogen gas, it is the leading process so far as the total volume is concerned.

Q The other processes you mentioned, electrolysis?

A It is a by-product of electrolysis.

Q And you also mentioned a process used in the petroleum industry?

A That is correct.

Q Is it a by-product there or a desired end product?

A Well, it depends which step of the petroleum refining you are talking about. Most of the time it is a by-product.

Q What is done with this by-product that is generated in the petrolem refining process?

A Well, on occasions it is immediately reused, in effect, in the same vessel. occasionally it is vented, occasionally it is burned.

Q To your knowledge, is there any way of measuring the quantity of hydrogen vented or burned in such processes?

A It would be exceedingly difficult because the petrolem refining is what one might call a very non-specific process. That is to say, there are probably several thousand chemical reactions going on simultaneously. A good many of them will produce hydrogen as a by-product and therefore it would defy, I would suspect, all the computers known to mankind to come up with a good number.

Q Is there any way of measuring the hydrogen that is reused in the refining process?

A It would be the same answer.

Q All right.

Now, sir, would you tell us, please, how helium is derived or extracted?

A Helium is only one known source -- helium is a component of natural gas from certain sources. Natural gas varies widely in composition depending upon where it comes from and it turns out that in the United States and Canada, and I believe in Poland, certain natural gas sources are rich in helium, and it is extracted from natural gas, again, by low temperature distillation.

Q How about acetylene, how is that produced?

A There are two processes, leading processes for the production of acetylene. The most common one is by reaction of calcium carbide with water, which produces acetylene. The other one is by partial oxidation of natural gas.

Q Would you tell us, please, us laymen, what you mean by partial oxidation of natural gas?

THE WITNESS: With your Honor's indulgence --

A You take natural gas which is mostly methane. It has one atom of carbon, four atoms of hydrogen. You react it with oxygen, not completely, but sufficiently so to raise its temperature so that so-called free radicals are formed, which generally combine to form acetylene, which has a formula of two atoms of carbon and two atoms of hydrogen.

Q Would you tell us, please, how nitrous oxide is generated?

A Nitrous oxide is normally generated by a chemical reaction of certain salts with acid.

Q How about propane and butane?

A Well, propane -- may I separate them, if I may?

Q Please.

A Propane, one of the sources of propane are the so-called natural gas liquids, that is to say, natural gas has in it so-called heavier fractions. In other words, compounds containing more than one carbon atom. Propane has three. The normal procedure is to put the natural gas through low temperature distillation, again, the cryogenic process, if you will, and ethane comes out. That is one way of producing propane.

Another one is that you always get it as a by-product of petroleum refining, primarily cracking of heavier frantions.

Q How about butane?

A Forgive me.

The butane is derived, to my knowledge, largely from cracking of petroleum.

Q Is any of it derived from the liquification and fractional distillation of natural gas?

A There could be some, depending upon the source of natural gas, but I think it is a very minor amount.

Q But that is a technique used to derive propane?

A Yes, indeed.

Q The technique used to derive propane, is it comparable to the technique used to derive oxygen and nitrogen in the air separation process, or is it quite different?

A Well, it is an exactly analogous process. It is a low temperature distillation over a multi-component system. The only technical difference is that in air you use much lower temperatures than doing it in the distillation of natural gas, that is all. The techique is the same.

Q Is the equipment the same?

A Except, I would say for much more insulation that is required, it is essentially the same.

Q How about shipping it around the country, is the same kind of distribution equipment used?

A Very much similar except, again, for the temperatures involved, the amount of insulation required and pressure required.

Q Is there any other material that is produced from the same sources as propane and butane?

A You mean -- I'm sorry, Mr. Topkis. From propane --

Q Not from propane -- I think propen and butane are referred to as --

A Ethane.

Q What is that?

A Ethane is a component containing two atoms of carbon and six atoms of hydrogen.

Q What does -- what is propane used for?

A There are two large uses of propane. One is for heating purposes, so-called, the liquified natura gases referred to, and the second very large one, chief end-use is for making propylene.

Q Which in turn is used for polypropylene?

A Well, polypropylene is used -- propylene is used, among other things, for polypropylene, it is used for synthetic alcohol, synthetic fibers, resins in plastic.

Q What are the end uses of butane?

A The chief end use of butane is used for what is known as butadiene.

Q Is it used at all in heating?

A Some parts of it might be. I think the biggest end use of it is in the chemical operation.

Q Before I heard from the surgeon general andwas a smoker, I think I had a butane lighter. Was I wrong?

A No, you were not. I don't think this is, so far as total number of pounds used, Mr. Topkis, I think it is a cute but not a very wide use.

Q I gather that you can burn propane, butane and acetylene; is that right?

A Yes.

Q Yet, are propane and butane used in welding?

A No, they are not.

Q Why not, sir?

A Because of thermodynamics, that is to say, the reaction between acetylene and oxygen produces the highest temperature that any two gas mixtures can produce and this is on the order of 6,000 degrees Fahrenheit.

Q That is, I take it, an exteemely useful temperature?

A It is indeed, because of its use in metal welding. You have to melt the metal in order to weld it. You can do it more efficiently by using acetylene and oxygen rather than any other way.

Q Going back to the liquifaction of natural gas, at what temperatures is that carried out?

A To the best of my recollection, it is about -100 F.

Q 100 Fahrenheit?

A That is correct.

Q How does that compare with the temperatures at which air separation gases are generated?

A The air separation gases are, say, at 200 degrees Fahrenheit lower.

Q How about flourine, Dr. Kridly, how is fluorine generated?

A Fluorine is generated by electrolysis of fluorine saltes.

Q Would that same process produce hydrogen?

A Yes, as a by-product.

Q How about chlorine, how is chlorine produced?

A Chlorine is produced by electrolysis of ordinary salt or otherwise known as brine.

Q Is hydrogen generated in that process?

A Yes, it is.

Q Is that normally used as a commercial technique for the generation of hydrogen?

A Not really, because the amount generated normally speaking is not sufficiently high to warrant collection, probably. I am sure some people sell it as such, but natural gas reforming is a much cheaper and more convenient technique.

Q That is the technique used while mkaing ammonia; is that right?

A Yes, sir, that is correct.

Q When you do want to obtain hydrogen for commercial purposes, electrolysis, you said, a few moments ago, is a technique by which you can do that?

A Yes.

Q But you don't do it by using fluoride or chlorine salts?

A Well, it would be easier if you wanted to generate hydrogen by electrolysis by simply putting sulfuric acid into water and electrolyze water.

Q Are fluorine and chlorine normally termed industrial gases?

A So far as I know in this country, no, but I have a feeling that in Britain they are so considered.

MR. THURMAN: Objection. Move to strike his feeling

MR. TOPKIS: I will consent to the striking of Dr. Kridl's feeling.

JUDGE BARNES: In the U.S. they are generally not?

THE WITNESS: That is correct.

Q Is there any explanation you can offer as to why they are not considered industrial gases?

A As we all know, every substance can exist either as solid, liquid or gas, depending upon the temperature you are talking about. The gas -- the air separation gases, obviously, at ordinary temperatures and pressures, are gaseous. Chlorine and fluorine are gaseous at ordinary temperatures but it takes very little pressure to liquify them. Consequently, there is a regrettable confusion in terminology, really. I think the statistics that were originally developed were developed for the separation of gases which you obtained from distillation of air and then a few other things were added to it and different things were added to those industrial classifications in the U.S. than they were in England, I think.

Q How is carbon dioxide generated commercially?

A Carbon dioxide, commercially, is produced as a by-product of ammonia operations. This is the largest source. It is also produced as an end product of any kind of combustion.

Q Is there -- well, you just mentioned, I believe, that fluorine and chlorine differ from the air separation gases in that they will go into liquid at a fairly low pressure. Other than that fact, is there any fact in the way these substances are either generated or used which would explain their not being regarded generally as industrial gases?

A I don't think so.

Q You are familiar with the SIC codes?

A Yes.

Q To your knowledge, is any reconsideration of the SIC codes underway or in prospect at the present time?

A Yes.

Q Will you tell us about it, please?

MR. THURMAN: Objection, foundation.

MR. TOPKIS: I asked his knowledge.

MR. THURMAN: How does he know?

MR. TOPKIS: I would be delighted to ask him.

Q Would you tell us your knowledge?

A We have been approached by the National Industrial Conference Board to assist them with the revision of the SIC codes pertaining to chemicals; by "we," I'm sorry, I mean Stanford Research Institute.

Q Would that embrace industrial gases?

A Most likely.

Q If it is done, you will supervise it?

A If it is done, I will.

Q Now, goinb back for a moment to carbon dioxide, Dr. Kridl, which carbon dioxide process is most used for commercial generation?

A The by-product of ammonia production is by far the largest source of CO_2.

Q Now, so far as the end uses of the industrial gases which we have been considering are concerned, are they significantly interchangeable or are they significantly discrete or could you tell us your views on that subject?

A By and large, the industrial gases are not interchangeable. The only exception being that fo refrigeration purposes in many cases, either liquid nitrogen or solid or liquid carbon dioxide could be used. Similarly, for heating purposes, you could use either propane or acetylene principal.

JUDGE BARNES: I was going to ask you about acetylene, what is the other use of acetylene than welding?

THE WITNESS: It had been used, your Honor, quite a bit in various chemical reactions. Unfortunately -- well, however, its use has been declining over the past, say, five to seven years. All the industrial chemical processes using acetylene are now switching to ethylene. It is much more economical to use ethylene rather than acetylene.

Q So the use of acetylene for that purpose is dropping?

A The chemical use of acetylene is dropping.

Q Are there other uses of acetylene being developed?

A Not to the best of my knowledge.

JUDGE BARNES: Acetylene would not be economical for heating, would it?

THE WITNESS: Well, it could be, the principle. It could not be economical for heating, it is several more times expensive than natural gas.

MR. TOPKIS: May I have Exhibit 198, please?

(Document handed to Mr. Topkis.)

Q I am going to show you a copy of BOC RX 198 and ask you, sir, was that chart prepared under your supervision?

A Yes, it was.

Q Would you tell us, please, what it records?

A It records the historical data on shipments of oxygen as reported by the current industrial reports of the Bureau of Census. It shows the value in current dollars, in millions of dollars, the quantity in billions of cubic feet and also the methods of distribution both in the physical form of the product, this is to say, either as gas or as liquid, and under each physical form of the product it shows the percentage shipped by various methods.

Q Now, this is a record of shipments and not of production; is that right?

A That is correct, sir.

Q I see that in the third column, the total quantity produced from '63 to '72 seems to have risen steadily; is there any explanation you can offer of that?

A Yes, indeed. This reflects, primarily, the increasing use of oxygen in steel making.

Q The source that you used for preparing this chart, Dr. Kridl, is recorded at the bottom?

A Yes, it is, sir.

MR. TOPKIS: I could call your Honor's attention to the fact that those documents have been received in evidence as BOC exhibits 44 to 53 and that being so, I would offer this chart at the present time.

MR. THURMAN: May we have a second on this? This is a fairly unusual procedure, I might say.

Normally a source document like BOC such and such number where we can actually go to the source rather than the general statement, the Bureau of Census, and then have to try to locate it. Secondly, I don't see the relevance of this. This normally would not go in the record. If the facts were there, this would be a chart in pleadings or in briefing to your Honor, to include possibly in it, the findings. I don't see the relevancy of putting a chart like this in the record. I assume it is a convenience chart, mainly.

MR. TOPKIS: It is a convenience chart, no doubt about it, your Honor. But I think the witness, through his testimony, may very well offer to your Honor some insights which only his expertise may be permitted to be drawn from this chart. I would like to have it in evidence so he may talk about it.

MR.THURMAN: We would like a few minutes, then, since the source documents is not listed, to check this over and see if it is accurate. Maybe I can do it on voir dire, ask what it shows. I don't know --

MR. TOPKIS: If your Honor please, this document was delivered to my friends one week ago today and I can assure your Honor that we have cheked it three times for accuracy.

JUDGE BARNES: I am going to require you to do whatever voir dire you have now, Mr. Thurman, and I will permit complainant counsel a reservation on it for accuracy. If you find any errors in it, we take that up at a later date.

I assume all of these figures are taken from exhibits that are in the record?

MR. TOPKIS: Yes, your Honor.

MR. THURMAN: I suppose I have maybe just one or two question on voir dire.

VOIR DIRE EXAMINATION

BY MR. THURMAN:

Q Are all of these figures taken from the industrial reports, census industrial reports?

A Yes. Forgive me. All the primary figures, that is to say, value and quantity, we computed the percentages ourselves.

Q Just a mathematical --

A This is just to state the division.

Q What do these represent? Are these shipments of production by the various companies or primary producers, or just what does this represent?

A This represents shipments of the material as reported to the Bureau of Census. So, this represents, in fact, the merchant sales of the material.

MR. TOPKIS: Also tonnage, I believe.

A Value as well as quantity.

MR. TOPKIS: Tonnage as well as merchant.

A I stand corrected. There is a peculiar terminology. To me, merchant sales means everything that is sold to someone, irrespective of whether it is via pipeline or via tonnage requirement, and so on. This represents the shipments in sales.

Q Shipments by whom?

A By the producers who sell oxygen.

Q These are primary producers that sell oxygen.

This wouldn't include a producer that produces for his own usage and does not sell, does not ship?

A As far as I know, Mr. Thurman, there is some confusion in the statistics at that point. So far as I know, the only people who are supposed to report to the Bureau of Census are those who, in effect, ship and sell. Otherwise it would show up in production and not in shipment.

MR. TOPKIS: I call to your Honor's attention, to clarify this point, to BOC RX 53 in evidence, it speaks of shipments of industrial gases by primary manufacturers in 1972 as totaling $599-million. That suggests that the tabulation with which we are dealing here, as the witness says, is a tabulation of shipments of industrial gases by primary manufacturers.

MR. THURMAN: Your Honor, as I stated before, we certainly have no objection since this is from facts in the record already received by your Honor in the record. I haven't checked the accuracy. Certainly that could be checked later on or in a briefing schedule.

Like I say, I assume it is a convenience document. If it is in the record, it is in the record and it would normally be part of the briefing to your Honor. As a chart, we certainly have no objection to it if it is what it purports to be, taken from the record.

My only objection would be relevancy. I don't know what relevancy the distribution **methods** are to this case. It certainly wasn't pleaded. We would make an objection on relevancy and ask that the relevancy be stated.

JUDGE BARNES: I will receive BOC RX 198 in evidence, subject to complainant counsel's right to check for accuracy.

(BOC RX 198 received in evidence.)

MR. THURMAN: I assume the instructions will be clear. This doesn't include propane and other types of fuel gases. Is that correct?

THE WITNESS: This chart specifically refers to oxygen only.

MR. THURMAN: Excuse me. Okay.

BY MR. TOPKIS:

Q Now, this chart we have seen as a result of your response to Mr. Thurman's question records only shipments of oxygen?

A That is correct.

Q It does not record, then, as Mr. Thurman asked you, oxygen consumed by the producers of such oxygen?

A No.

Q Specifically, would it record oxygen used by steel companies which generated their own oxygen for their own use?

A So far as I know, it would not.

Q I see on BOC Exhibit RX 53-D in evidence, the figure 301.8 million -- billion, I'm sorry, cubic feet, as being the total shipment and I see as the quantity produced 353.2 billion cubic feet. Could you offer any explanation of that difference, sir?

A Well, that difference --

MR. THURMAN: Objection, your Honor. No foundation. He merely has just taken a chart and transferred figures onto a chart, taken it from a document.

JUDGE BARNES: We whould have a foundation.

Q To your knowlege are there any users of oxygen who generate their own oxygen for their own use?

A Yes.

Q Who are they, what kinds of companies?

A The two biggest ones are U.S. Steel and Ford Motor Company.

Q In their steel-making?

A That is correct.

MR. THURMAN: Well, wait a minute. How does he know this?

MR. TOPKIS: I would be delighted to ask him.

Q How do you know this, sir?

A Well, this is a matter of fairly common knowledge among people who are involved in the chemical industry.

THE WITNESS: Mr. Thurman, I could not offhand tell you when I first found out about it, but it might have been ten years ago, whenever it happened, I think it happened about five years ago.

MR. THURMAN: Well, we don't believe it is proper foundation and we object to that. If it is common knowledge, I suppose your Honor would take judicial notice of it.

JUDGE BARNES: I will let the witness' testimony stand in the record.

Q Doctor, going to the fourth column of this exhibit, 198, headed "Gas Methods of Distribution, Cylinder and Bulk," what is "cylinder and bulk"? What does that encompass?

A That encompasses the method of distribution which is composed of compressing the gas, shipping it out in cylinders or shipping it around in properly constructed tank trucks.

Q In any event, we are dealing here with gas as opposed to liquid; right?

A That is correct.

Q I see under the heading of "Cylinder and Bulk" the fourth column, the percent of total value has doopped from 21.3 percent in 1963 to 1.8 percent in 1972. Can you give us an explanation, please, if you have one, of how or why that has come about?

MR. THURMAN: Objection. No foundation.

JUDGE BARNES: What is the basis of the witness' knowledge as to the decline in these figures?

Q Can you tell us?

THE WITNESS: Are you asking me, your Honor?

JUDGE BARNES: Yes. What is the basis of your knowledge of the decline? How can you comment on this?

THE WITNESS: Well, the reason that I can comment on this is because of my prior knowledgeof the industrial gas industry. Plus knowledge as to what has happened in particular to oxygen end uses over the last several years.

JUDGE BARNES: I will permit him to answer the question.

MR. THURMAN: I didn't know he had prior knowledge of industrial gases. I don't think that has been brought up in the record. He is a chemist and he knows how it is made. So far, that is the only foundation question to my knowledge that is in the record.

JUDGE BARNES: He has studied the industry.

MR. THURMAN: We got rid of the study.

JUDGE BARNES: The knowledge is something we haven't gotten rid of.

MR. THURMAN: I don't know what he has learned from the study now.

JUDGE BARNES: He is going to tell you.

MR. THURMAN: Now we would like to go back and see what his recollection is of what the studies --

JUDGE BARNES: He is not telling us what the study said. He is telling us the background. His knowledge to testify about the industry.

I will permit you to answer.

THE WITNESS: Thank you, sir.

A The reason for the decline, and I would like to call your attention to the fact that these are percentages but not numbers, the decline in percentage is because higher and higher proportions of total oxygen is now being moved via pipeline and therefore as the pipeline percentage increases, something else has to drop off. It still has to add up to 100.

Q Well, the quantity of -- oxygen moved by cylinder and bulk techniques has dropped in the same period from 4.1 percent to .2 percent?

A That is correct.

Q That is not quite commensurate with the trop in value?

A No, it isn't.

Q Can you explain that to us?

A Well, the reason for that is that there is a lot less intense competition in the movement of industrial gases via cylinders and tank trucks. What is controlling the economics there is the cost of distribution, cost of cylinders, rental of cylinders, storage charges, maintenance of trucks and so on. So, the value of the gas is really rather secondary.

Q Now, going over to the last two columns on the exhibit, Doctor, where we see under "Liquid, Methods of Distribution, Pipeline," we have figures there only for the years 1971 and 1972. Can you offer any explanation of that?

A This method of distribution did not become significant until the late sixties or say 1970, and prior to it the industrial reports were so small that it wasn't reported.

Q I see. Let me ask you --

MR. TOPKIS: May I have 199, please?

(Document handed to Mr. Topkis.)

Q I take that back from you, Doctor, and give you a copy of Exhibit BOC RX 199.

I ask you, was this chart prepared under your supervision?

A Yes, it was.

Q Would you tell us what it records?

A This chart is simply -- it shows the unit value of shipments of oxygen by two physical forms, gas and liquid, and by methods of distribution. It was derived from the preceding chart by simple division.

Q Let's take the figure for 1965, Doctor, where, under the total you see 1.0, what is that 1.0?

A This means that the average value for total shipments of oxygen in 1965 was $1,000 per million cubic feet, in 1965.

Q And in 1972 the, the .72 means?

A It was $720 per million cubic feet.

Q And the same techniques have been used throughout the chart?

A That is correct.

MR. TOPKIS: I offer 199 in evidence, your Honor.

MR. THURMAN: I have no objection to the division of numbers provided they are correct.

MR. TOPKIS: I do not object to Mr. Thurman correcting any mistake we may have made.

MR. THURMAN: The only objection I haveis relevancy. I don't know what this proves or how relevant it is to this case.

JUDGE BARNES: The witness prepared the charts and he is testifying and I assume he will have some testimony on them. I will receive BOC RX 199 subject to complainant counsel's right to correct errors.

MR. TOPKIS: I don't intend to interrogate the witness beyond what I have already done. It speaks for itself. I thought these charts would be helpful to your Honor in helping to understand these tabulations.

JUDGE BARNES: I have received it in evidence.

(BOC RX 199 received in evidence.)

Q Just one question about these charts, Doctor.

You speak in these charts about "current dollars." Does that mean that there has been or has not bee any adjustment for the impact of inflation?

A Current dollars, the way we always use the term, means dollars of that particular year with no adjustment for inflation.

JUDGE BARNES: Does this chart show that the oxygen is cheaper in 1972 than it was in 1963?

THE WITNESS: Yes, sir.

Q The cylinder and bulk unit value has risen from 5.9 thousands of dollars per million cubic feet in 1963 to 8.1 in 1972, Dr. Kridl; do you see that?

A That is correct, yes.

Q What proportion of the total quantity of shipments of oxygen is represented by cylinder and bulk?

A From Exhibit 198, the percentage in quantity is 0.2 percent.

Q Thank you, Dr. Kridl..

Now I would like to go, if I may --

MR. TOPKIS: 194, please.

(Document handed to Mr. Topkis.)

Q Showing you, Dr. Kridl, a copy of BOC RX 194, I will ask you, sir, was that prepared under your supervision?

A Yes, it was.

Q And does this do for nitrogen what the earlier exhibit did for oxygen shipmentss?

A Yes, it does.

MR. TOPKIS: I offer it in evidence, your Honor.

MR. THURMAN: Well, we have the same objection. Relevancy. It is in the record that it is for briefing, a briefing matter rather than an exhibit matter.

JUDGE BARNES: I will receive BOC RX 194 subject to complainant counsel's right to check for errors.

(BOC RX 194 received in evidence.)

Q I will now show you BOC RX 196, Dr. Kridl, and I will ask you whether that was prepared under your supervision.

A Yes, sir, it was.

Q And does 196 do for the unit value of nitrogen shipments what the earlier exhibit did for the unit value of oxygen shipmentss?

A Yes, sir, it does.

MR. TOPKIS: I offer 196 in evidence, your Honor.

MR. THURMAN: Same objection.

JUDGE BARNES: I will receive BOC RX 196 in evidence.

(BOC RX 196 received in evidence.)

Q I will now show you BOC RX 191, and I will ask you was that prepared under your supervision.

A Yes, it was.

Q I will ask you whether that presents as to Argon in one chart the information as to shipments and unit value which we have received earlier as to oxygen and nitrogen?

A Yes, it does.

Q Will you tell us the explanation of why we can get in one chart here what took two charts before?

A Because argon is a much simpler material from the point of distribution. As far as I know there is only one way of distributing it.

MR. TOPKIS: I offer 191 in evidence, your Honor.

JUDGE BARNES: What is the way of shipping argon?

THE WITNESS: Cylinders.

JUDGE BARNES: What is the use, the primary use, of argon?

THE WITNESS: Your Honor, argon isused as an inert gas in certain types of welding. Its primary use is to protect the metal from oxygen atmosphere.

JUDGE BARNES: Any objection, Mr. Thurman?

MR. THURMAN: We have the same objection. One objection I really haven't brought up is that this thing leaves you hanging in the air. He hasn't explained, if he knows why -- there are probably many, many reasons why the unit price was dropped. I think the record is void of this now.

JUDGE BARNES: Perhaps you might wish to explore this on cross examination.

MR. THURMAN: I would like to hint to Mr. Topkis that perhaps he might explore it on direct.

MR. TOPKIS: I am always willing to take a hint from my friend.

JUDGE BARNES: I will receive BOC RX 199 in evidence.

(BOC RX 191 received in evidence.)

Q Dr. Kridl, can you offer us any explanation, sir, as to why there has been a drop in the unit value of a million cubic feet of argon from 18.7 in 1963 to 8.7 in 1972?

MR. THURMAN: The hint included a foundation for that.

MR. TOPKIS: I just can't make this man happy no matter how hard I try.

JUDGE BARNES: I think we have had his foundation placed in the record on the other questions, so we won't have to go into it again.

You may answer it.

THE WITNESS: Thank you, your Honor.

A This argon -- I'm sorry, Mr. Topkis, were you specifically asking about argon, or other gases?

Q Let's take the three we have covered up to now, argon, nitrogen and oxygen.

THE WITNESS: With your Honor's permission, I would like to start with oxygen because everything, in effect, follows from oxygen.

A There are several reasons why the unit value of oxygen has dropped over the years. One of the principal reasons was, that the large users of oxygen, primarily the steel companies, exert a very severe downward pressure on prices of oxygen. It is the old make or buy decision. If the suppliers of oxygen to the steel companies were to keep theprice of oxygen too high, there is nothing to prevent the steel company from integrating backwards to make their own oxygen, as in fact a couple of them have done.

The second reason was that there was a general state of euphoria among the industrial gas producers in the middle sixties, say '64 to '66 or thereabouts, and there was a vast expansion of capacity. There was an awful lot of industrial gases looking for markets and clearly, the intense price competition resulted.

Probably the third reason was that if one examines the average size of the air liquifaction plant, it has been going up over the years and basically, where you would have a plant producing 500 tons a day or 2500 tons per day, you pretty much use the same number of people to run it. Consequently as your plant size increases, your unit cost goes down, and this, of course, has also resulted in reducing costs and therefore lower prices.

The primary factor was the vast increase in the use of oxygen in steel-making and the desire of the industrial gas companies to keep the steel companies from integrating backward to making their own oxygen.

Q Now, how about nitrogen, sir?

A Nitrogen, there is no way you can produce oxygen without producing nitrogen, because they are intermingled in air. Air contains 80 percent nitrogen and 20 percent oxygen. Therefore, for every volume of oxygen which you produce, you automatically produce, co-produce, four volumes of nitrogen. This nitrogen is primarily a by-product. Consequently, anything you can do to sell this nitrogen, obviously helps you with the economics of the plant. Therefore, there has been a very concerted push by all the oxygen producers to find and develop new and use markets for nitrogen. The biggest, highest growing market for nitrogen is, of course, in refrigeration of all kinds. Therefore, some of the basic oxygen producers have in fact gone into their own refrigerator truck distribution systems and so on.

The very high constantly increasing volume of nitrogen produced as a by-product of the necessary oxygen production again exerted a downward pressure on the prices.

JUDGE BARNES: I was going to ask you about that. When you make oxygen you say you also make nitrogen. Do they recover all of that nitrogen or is some of that permitted to escape into the atmosphere?

THE WITNESS: I believe, your Honor, that the relevant -- if I may, I would like to demonstrate to you with figures.

If I remember rightly, in 1972 there was some 301.8 billion cubic feet of oxygen produced --

MR.TOPKIS: Shipped.

THE WITNESS: Shipped. I beg your pardon.

This means, say in round numbers, 300 billion feet. This would have meant that 1.4 times as much or 1.2 trillion cubic feet of nitrogen would have had to be produced with it. Actual shipments for 1972 were, I believe, 176 billion cubic feet, which is like 15 percent of the total which had to be produced in order to satisfy this oxygen demand. Therefore, like 85 percentof it is vented.

JUDGE BARNES: This is a different nitrogen than the nitrogen you put on your grass, your lawn?

THE WITNESS: Yes, sir, this is just atmospheric gas, what you put on your lawn is, in effect, a misnomer. It is not nitrogen, really, it is either urea or ammonium sulfate or ammonium phosphate which you have to alter fast enough so it doesn't burn it.

(continued on next page)

MR. TOPKIS: All right.

Q These substances that you put on your lawn, they contain nitrogen, do they not?

A Yes, indeed.

Q And indeed the objective is to bring the nitrogen to the soil?

A That is correct.

MR. THURMAN: Leading question again.

Q Now, so far as -- nitrogen then -- is nitrogen used in generating ammonia?

A Yes, it is.

Q Do the ammonia manufacturers have the same incentives from those encountered from the steel manufacturers when they contemplate what you term back integrating?

A The story is exactly the same.

That is to say, large ammmnia producdrs, again, are always faced with the make or buy situation.

Q Incidentally, is the technology that would be used in back integrating known to a selected few or is it freely available?

A It is very freely available.

In fact, so much so that the industrial gas producers would gladly -- most of them would gladly build you a plant and you can eitghr operate it yourself or they would operate it for you.

Q You mentioned in discussing oxygen, Dr. Kridl, steel manufacturers who have this incentive to back integrate.

Are there any other large-scale users of oxygen who would have the same temptation, opportunity?

MR. THURMAN: Objection, your Honor.

We are getting outside his expertise.

Certainly he has expertise and we didn't question what oxygen and nitrogen was used for.

But now we are getting into steel companies and what people think and whether they would integrate backwards and so forth.

I don't think he has sufficient knowledge to discuss what steel companies plan to do and what chemical companies plan to do.

This is a matter of testimony.

It doesn't require an expert for this. It requires an expert or a representative from those particular companies.

I believe we are getting outside the expertise of this witness when he starts discussing companies.

JUDGE BARNES: That may be true.

I think he could testify factually as to how many chemical companies make their own nitrogen or things of that nature.

MR. TOPKIS: Your Honor, I didn't mean to ask for the witness' opinion or anything of the sort.

I just wanted to ask him, are there any companies which use oxygen in quantities comparable to that used by the steel companies.

JUDGE BARNES: That is a good question.

MR. THURMAN: If he knows and how he knows.

MR. TOPKIS: Of course, if he knows.

MR. THURMAN: And how does he know.

MR. TOPKIS: All right.

A There are chemical companies using substantial quantities of oxygen, whether that quantity is exactly comparable to that used by, say, U.S. Steel, I could not answer.

However, it is sufficiently large enough that it would warrant its own oxygen plant.

Q Are there any other producing companies engaged in any other business which use such large quantities of oxygen?

A Yes, sir, the glass companies.

Q And how about nitrogen; are there other companies other than the ammonia manufacturers which use very sizeable quantities of nitrogen?

A The very large refinery may have considerable demand for nitrogen for blanketing.

This is to exclude oxygen.

Q Now, I don't think you answered the question as to argon.

That is to say, is there any explanation that you can offer as to the downward movement in the price or unit value of argon?

A Since argon is, in effect, co-produced any time you produce oxygen and nitrogan as being one of the five components of air, as the volume of oxygen shipped increased, so, or course, increased the availability of argon.

Since, in effect, it is a by-product, again, whatever you can do to sell it, helps you with your oxygen economics.

JUDGE BARNES: We have had witnesses in this proceeding, Doctor, who have said, we only make oxygen at plant.

Does that mean that they were venting their nitrogen and argon?

THE WITNESS: Most likely, your Honor.

JUDGE BARNES: They were making it but not capturing it?

THE WITNESS: That is correct.

For example, I worked in a plant, in a fertilizer plant for awhile that were making nitrogen and oxygen was being vented.

It was a perfect place to go when you had a hangover.

Q Now, Dr.Kridl, I will now show you _Exhibit 189, BOCRX189 and I will ask you whether that accords for acetylene, the same kind of informationwe have seen previously as to the other gases.

A Yes, sir, it does.

Q Was it prepared under your supervision?

A Yes, sir, it was.

MR. TOPKIS: I offer it in evidence, your Honor.

MR. THURMAN: Same objection.

JUDGE BARNES: I will receive BOCRX189 in evidence.

(Document marked BOCRX 189 in evidence.)

Q I will now show you 190 and ask you whether that records the unit value of shipments of acetylene as we have previously seen the unit value of other gases.

A Yes, sir.

Q Was this prepared under your supervision?

A Yes, it was.

MR. TOPKIS: I will offer it in evidence, your Honor.

MR. THURMAN: Same objection.

JUDGE BARNES: I will receive BOCRX190 in evidence.

(Document marked BOCRX190 in evidence.)

Q Dr. Kridl, 190 records an increase between 1963 and 1972 of the unit value of shipments of aceytlene in those years from 10.6 thousand dollars, which would be $10,600 per million cubic feet to $13,100 per million cubic feet; is that right, sir?

A Yes,sir.

Q Is there some explanation you can offer of that increase in value?

A Yes, I can.

There are several explanations.

First of all, as I mentioned before, the use, the chemical use of acetylene has in fact been declining because of competition from ethylene.

Therefore, the market has actually been shrinking and there was no way that acetylene producers, by lowering the price could recapture the market.

They could never get down that low.

Therefore, the chemical acetylene which is made from natural gas would reflect the increasing cost of natural gas and also the increasing cost of energy.

They put quite a bit of energy into natural gas to make acetylene.

Similarly, calcium carbide production which is again, highly energy-dependent, this reflects itself in the cost.

However, perhaps most importantly is that there is no single one acetylene producer or a group of acetylene producers who are large enough that by threatening to integrate backward, could exert this substantial price influence.

Q When you say acetylen -- did you mean acetylene producers or --

A Consumers, I beg your pardon.

MR. THURMAN: I would like a foundation on that or move to strike, one of the two.

JUDGE BARNES: What is the basis for that statement, Doctor?

THE WITNESS: That the primary use of acetylene right now is, since the chemical uses are declining, is for welding.

Welding, typically, around thecountry is done in thousands of job shops, no one of which or no group of which have very much of an influence on the pricing because they are in no position to back integrate.

Acetylene is too quickly produced. I don't know how many plants are producing acetylene but it must be well over a hundred.

Q These figures, are not, of course, adjusted for inflation?

A No, sir, they are not.

MR. TOPKIS: 190 is recieved then, I take it?

JUDGE BARNES: It is received.

MR. TOPKIS: Now, your Honor, I would go to 192 and ask the witness:

Q Doctor, does that record shipments of carbon dioxide as the previous charts have recorded shipments of other gases?

A Yes, it does.

Q And it was prepared under your supervision?

A Yes, it was.

MR. TOPKIS: I offer it in evidence.

MR. THURMAN: Same objection.

JUDGE BARNES: I will receive BOCRX192.

(Document marked BOCRX192
in evidence.)

JUDGE BARNES: I would like to go back to the acetylene exhibit, Doctor, 189, pipeline method of distribution.

To whom do they distribute acetylene by pipeline?

THE WITNESS: This is only for chemical uses, your Honor.

For example, one of the chemical companies in the neighborhood of Calvert City, Kentucky, they produce acetylene and ship it bypipeline to another chemical company where they are converting it into acrlonitrile.

So, this represents chemical shipments rather than for welding.

MR. TOPKIS: I would offer in evidence, then, your Honor, BOCRX192.

Has it been received?

JUDGE BARNES: It has.

MR. TOPKIS: Pardon me.

Q Now, Dr. Kridl, I will show you BOCRX193 and I will ask you, is this a unit value chart for carbon dioxide shipments as seen before with regard to other gases?

A Yes, it is.

Q Prepared under your supervision, sir?

A Yes.

MR. TOPKIS: I offer it in evidence, sir.

MR. THURMAN: Same objection.

JUDGE BARNES: I will receive it.

(Document marked BOCRX193 in evidence.)

Q I will show you now, Dr. Kridl, BOCRX195 and ask you whether that chart reflects the same kind of shipment and unit value information as to hydrogen which we have seen before as to other gases.

A Yes, it does.

Q Again,not adjusted for inflation?

A That is correct, sir.

Q Prepared under your supervision?

A Yes, it was.

MR. TOPKIS: I offer it in evidence, your Honor.

MR. THURMAN: Same objection.

JUDGE BARNES: I will receive it.

(Document referred to marked BOCRX195 in evidence.)

Q Now --

JUDGE BARNES: Off the record.

(Discussion off tghe record.)

JUDGE BARNES: Back on the record.

Let's adjourn now for lunch until 2:00.

(Whereupon, at 12:30 p.m. a luncheon recess was taken.)

AFTERNOON SESSION

2:00 p.m.

MR. TOPKIS: May I begin, your Honor?

JUDGE BARNES: Yes, sure.

BY MR. TOPKIS:

Q I show you now, Dr. Kridl, BOCRX197 and ask you if that is for unit shipments and unit values of nitrous oxide what the other exhibits have done for other gases.

A Yes.

Q And it was prepared under your supervision?

A Yes.

MR. TOPKIS: I offer it in evidence, your Honor.

MR. THURMAN: Same objection.

JUDGE BARNES: I will receive BOCRX197.

(Document referred to marked BOCRX197 in evidence.)

MR. TOPKIS: Now, your Honor, I would like to go to BOCRX246.

I think I can save time by suggesting to the witness what is the obvious fact, namely, that these graphs presented or they present in graph form the information that we have previously put into evidence as BOC198,199 and a few other exhibits.

It is more readily apparent to the eye viewing of the same material.

Q Is that correct, doctor?

A That is correct.

Q These graphs were prepared under your supervision and checked by you?

A The graphs -- the originals of the graphs were prepared under my supervision and checked by me.

Q These were prepared by a professional chart maker?

A That is correct.

MR. TOPKIS: I offer them in evidence, your Honor.

MR. THURMAN: They look like pretty charts.

I don't know what they prove but we have the same objection.

These are things for -- for relevancy first and these are things for briefing and not for documents going into the record.

We don't know the accuracy, of course.

I assume if you do admit it, it would be the same --

MR. TOPKIS: I will have no objection to having any errors called to our attention.

JUDGE BARNES: I will receive BOCRX246A through M in evidence.

(Documents referred to marked BOCRX246A to M in evidence.)

Q Now, Dr. Kridl, this morning under Mr. Thurman's prodding, you offered us some explanations of the downward unit value movement of oxygen and nitrogen and a couple of other gases.

I don't think, sir, I asked you then whether you had any explanation of the behavior of unit value of carbon dioxide and hydrogen.

Could you offer us any explanation there?

And, if you wish, I could direct your attention to --

MR. TOPKIS: Just a moment, if I may, your Honor.

Q -- I direct your attention to 246E, which charts carbon dioxide shipments unit value quantity and value and 246F which charts hydrogen value, quantity and -- and unit value.

Perhaps you will take them one at a time, sir.

A If I may, starting off first with carbon dioxide, the principal reason of the unit value declinigg is the vast availability of carbon dioxide as a by-product, say, of ammonia operations.

And again, ammonia, as I am sure, a great many of you know, has been under a very intense price pressure in recent years and wh-tever could be done to sell the by-product obviously helped with the basic economics of the thing.

There was also a great deal of competition. Carbon dioxide was trying to maintain its share, if you will, of the refrigeration market versus the inroads of nitrogen and all of this has had to do with the decreasing of unit costs.

In hydrogen we have the same thing taking place.

There was a large supply of hydrogen from many sources.

A large increase, as you may notice in quantity up until 1968 is represented by the aerospace industries requirements for propellants and other people went into the business to provide it because this was a reasonable business.

So, the prices dropped -- the unit value dropped up until about 1968 and from then on the unitvalue started increasing because there was simply not enough of, you know, you couldn'tsell the stuff to anybody in particular.

There are reasonably few known captive users of hydrogen.

Q How does that cause the unit value to go up?

MR. THURMAN: Your Honor, I guess maybe I asked for this but I believe this witness has been qualified as an expert chemist.

If this is his opinion he is putting in, I would have no objection.

If he is stating this as a fact, as a factual situation, I would object to that as being actual fact.

JUDGE BARNES: I think it is his opinion.

A Excuse me, I'm sorry, Mr. Topkis.

Q I think my question was, Doctor, how does a decline in use bring about a rise in unit value?

A It could bring it to this extent.

The decline in use, a lot of people go out of the merchant business and those who are left tend to, oftentimes, compete less vigorously because they know there isn't much elasticity in demand.

Q I see.

Actually, this chart, BOC 246F, hydrogen shipments --

A The unit value goes up.

Q It goes up until 1971 and drops in '72.

But I notice its base line is not zero but 1.2.

So, to a degree, we are emphasizing changes; is that right?

A That is correct, yes.

The base line on unit value use -- well, okay. You are talking about the ordinate on the right side. It starts at 1.2 and goes up to 1.8 thousands of dollars per million cubic feet.

Q It was $1300 per million cubic feet in 1968 and $1800 in 1971 and then back to $1700 in '72; is that it?

A Yes.

Q I see. Okay.

Dr. Kridl, taking these gases, these industrial gases as a group, could you offer us your estimation of the presence or absence of price competition in these businesses as revealed by this evidence?

MR. THURMAN: Objection.

No proper founation whatsoever for that question, price competition.

There is nothing in this record showing price competition.

You can't base his statement on what is in the record.

He hasn't established a foundation for his knowledge.

JUDGE BARNES: I think you will have to establish a foundation first.

Q Dr. Kridl, you have looked at the unitvalues on these various charts?

MR. THURMAN: Objection.

He is leading him again.

Ask him --

JUDGE BARNES: I think it is a preliminary question. It is not objectionable.

A Yes, i have.

Q And you consider the number of companies that are active in these various industrial gases, the production and sale of them?

A Yes.

Q You are familiar with them by reason of your personal experience?

A We have made a list of all of them.

Q You are falling into the professional practice of referring to "we."

Do you mean someone else or yourself, Andrew G. Kridl?

A No.

The list was prepared in one of the departments reporting to me.

I looked it over. I approved it.

Q Now, against that background, Dr. Kridl --

MR. THURMAN: He is still adding to the testimony a number of companies.

There is nothing in this record that says the number of companies he looked at.

Q How many companies haveyou considered as engaging in one aspect or the other of production of natural gases/

A In the United States at last count, I believe there were about 32.

Q And the basis of this consideration that you have given to those 32 cojpanies an d the behavior of unit values of these industrial gases, Doctor, and on the basis ofyour general experience in the combined fields of chemistry and business in which you have spent your professional life, can you give us an opinion as to the presence or absence of competition, price competition in this field?

A There is a --

MR. THURMANE Objection.

JUDGE BARNES: Whatis the basis of your ob jection?

MR. THURMAN: He is talking about price competition.

There is still nothing about prices in this record.

I don't think there is one area where he said -- there are no price lists, no contracts, nothing.

Unless he can show what he bases his opinion on, I don't think it's good opinion evidence and certainly not reliable.

JUDGE BARNES: Is he entitled to give an opinion ni this area?

MR. THURMAN: I wouldn't think so.

Not unless he shows what he bases his opinion on.

JUDGE BARNES: I will permit the doctor to answer the question.

A In my opinion,there is a very significant amountof price competition in the industrial gas field.

Q Could you explain that, please, Dr. Kridl?

A There are numerous companies in any given market area, of course, industrial gases by nature cannot be shippeed very far.

The normal radius is say between 2 and 300 miles from theplant location.

Therefore, the competition is very -- it is localized and the competition takes place between the numerous small outfits in any given area that supply part of the market, and the majors who are trying to increase their market share.

This is, perhaps best -- this is obviously reflected by the constant decreasing unit value of shipments.

Q Does that conclude your answer, Doctor?

A Yes.

Q Will you tell me, sir, you referred earlier to potential back integration, upstream integration, if you will, by various users.

Does that potential back integration have any effect, in your opinion, on price levels in these various areas of industrial gases?

MR. THURMAN: Objection, again.

He was probably allowed without objection to talk about backward integration.

Goingfurther than this, I think it is for the steel companies to state whether they are going to backward integrate and for the chemical companies.

Not for the witness to come in here and say somebody else had this in mind.

This is certainly not reliable evidence and not the best evidence.

JUDGE BARNES: This is an opinion question for Dr. Kridl and he is qualified as an expert and he can give his opinion.

He may answer the question.

MR. THURMAN: Y our Honor, I am not quite sure what he is qualified in.

Is he a qualified chemist?

We had no objection to saying how these gases were made.

Certainly he would know. He has a tremendous background in that area, in my opinion.

He hasn't established ahy background as an economist, any background as a marketing expert in industrial gases and I think we are getting into a field where he really has not, in my opinion, been established as an expert.

Your Honor can certainly designate what type of expert he is but I would like to know where he has been qualified or what areas he is an expert in.

JUDGE BARNES: You offered him as an economist expert?

MR. TOPKIS: I offer him as a chairman of the department of economics of the chemical industry at Stamford Research Institute.

I don't think a man attains that position because he doesn't know much about chemistry and doesn't know much about economics.

MR. THURMAN: I would submit that he knows a heck of a lot about chemistry.

I don't know that this gentleman is an expert economist.

He is probably the outstanding chemist in SRI. Marketing certainly is not a field for a chemist.

I am sure SRI has a lot of good economists.

JUDGE BARNES: I will permit the doctor to answer the question.

A Would you repeat the question, please?

Q Yes, certainly.

In your opinion, does the potential for back integration of significant users of these industrial gases to which you have exercised , exercise any impact on price of these gases?

A Without any question.

Q Will you explain, please?

A Because, the places, first of all, a ceiling, an automatic ceiling, and the price which the merchant -- which the suppliers of industrial gases for sale can charge the major user.

If they attempt to charge any more at a reasonably low rate of return, say, in the order of bank money, forgive me, what used to be bank money before we all got hit with the increases, it becomes automatically economical for the major users to integrate back to make their own. Technology is available -- in fact, some of the producers will build a plant for the customer to operate.

Furthermore, as the uses of any one given major customer such as an expanding steel company increase, their demand increases, the size plant that they might be able to build becomes larger and larger and consequently the price at which it becomes economically attractive for tem to integrate backward gets lower and lower.

So that automatic ceiling, if you will, keeps declining.

Q You have been talking, Dr. Kridl, about very large users and the price which they would pay.

A That's correct.

Q There has been testimony in here that such large users are referred to as tonnage purchasers; are you familiar with that term?

A Yes.

Q Have you heard also the term merchant market or merchant purchasers?

A Yes, I have.

If I may, I would like to come to -- I am sorry, I am not sure I am responsive to your qustion, Mr. Topkis, because I was only so far talking about the tonnage operations.

The merchant market is something else again.

Q Is there any impact on prices in the merchant market, in your opinion, resulting from the potential capacity of the large users to back integrate?

A Yes, there is.

And it is this:

Supposing I am an operator of a large air distillation plant and I have a base load of my plant, say, of 300 tons per day, to pick a number.

Any additional tons ofoxygen which I can produce in that particular plant is, as we all know, produced essentially at marginal cost.

That is to say, I don't have to hire any more operators, I do not have to hire any more mechanics, any more yield clerks.

The only thing this costs me is an increased amount of power.

Therefore, any marginal ton that I produce, whatever I can sell it for over and above my actual marginal cost is money in my pocket.

Therefore, the large plants which are built for tonnage customers, can, in fact, advantageously to both of them and the merchant customers offer it at a lower price.

Therefore, the building of these huge plants making large amounts of oxygen and nitrogen tonnage has resulted in the decline of **prices** ~~competition.~~ in the so-called merchant market.

Q And does the price level in the merchant market, in your opinion, have any impact on the temptation of large users to back integrate?

Is there any interrelationship, let's say, between price levels in the merchant market and back integration?

MR. THURMAN: Objection.

No foundation.

How does he know this?

JUDGE BARNES: He is not testifying as to a fact but as to his opinion.

MR. TOPKIS: Yes, of course.

A Would you mind repeating the questio-?

Q Yes, surely.

Is there any interrelationship in your opinion between price levels in the merchant market and back integration, on the part of large users?

That is to say, will they change up or down inthe merchant market, affect back integration?

A Well, clearly, if company A, having a large internal use for, say, oxygen, were to back integrate to make oxygen, there would always be a temptation for them to sell excess output because sooner or later some company gets a bright MBA who would like to make a little bit of money on theside.

The constantly falling prices in the market and the intense competition they are in, tends to argue against a company trying to back integrate, being able to sell at profitable levels, certain excess production.

Therefore, this would be one of the arguments against back integration in the first place.

Q Now, you have just spoken of lowering prices in the merchant market.

Suppose prices in the merchant market went up?

A If the prices in the merchant market went up, in my opinion, at least, it would work in the opposite way.

That is to say, somebody would say, supposing we built ourselves an air liquification plant and look for the merchant prices in our area, maybe adding one or two salesmen, we could add pretty good money at this business.

Q Now, I would like to go to BOCRX243, if I may.

I will ask you, please, to tell his Honor what information is recorded on there.

First, let me ask you, was this table prepared under your supervision?

A Yes, it was.

Q Would you tell us, what information is recorded there?

A The information recorded on it is, historical data on per cent return on invested capital by six leading industrial gas producers in the United States.

THE WITNESS: I should add, your Honor, that the per cent return is defined as net income after taxes divided by total invested capital.

Total invested capital being devined as the sum of stockholders equity plus long term debt.

Q Now, this information was drawn from where?

A It was drawn largely from Moody's Industrial Manuals rather than from the individual reports of the companies.

It was cross-checked against the individual reports of the companies.

The big problem is the individual annual reports of the companies is that oftentimes, one figure will be shown for 1968. You go to the 1969 report and this figure is restated for 1968.

So, what Moody's normally speaking will do is to give the restated andthe most accurate.

It is not necessarily your most up-to-date figures.

This is why we largely chose Moody's.

Furthermore, if -- in several cases here, we could not get the annual reports of the companies in question for the years back.

Q I think there you have indicated that some were not available.

A Burdett and Big Three were not available.

We couldn't find any data on it.

Q Going to Moody's then, did you check against the annual reports in evidence?

A Yes.

Q As restated in the annual reports, are those then accurate?

A Yes, to the best of our knowledge.

Q Is there anything you didn't check?

A Nothingthat I -- you know, there might be -- you know, I am supposed to be under oath so I am trying to answer it as honestly as I can.

As far as I know, we checked everything we could find.

Q Well, then, you have indicated where you didn't find?

A That is correct.

Q Well, let me just ask one question which I offer to undercut the significance of this.

This is to say that we appreciatethat this document has certain deficiencies and I am trying to make them absolutely plain.

This is percent return for rhese companies for their operations across the board; isn't that right?

A That is correct.

Q And it is not confined to industrial gases?

A That is correct.

Q Is information available on their per cent return on total invested capital devotedto industrial gases in public form?

A Not to the best of my knowledge, sir, at least I have never seen any.

MR. TOPKIS: Withthat caviat, your Honor, I would offer BOCRX243.

MR. THURMAN: We have several objections, your Honor.

In the first place, it is largely based on material not in the record. It is just hearsay.

Secondly, this gives the rate of return on consolidated operations of companies.

Union Carbide, we all know, is in many other fields and certainly does not give industrual gas.

It is not relevant to this case.'

Industrial gas might be high, much higher than the over-all consolidated return.

I disagree with Mr. Topkis that the only information you can get and present in an anti-trust case is what is on the record.

We have stated all along to go out to these third parties and get this information.

I haven't seen any subpoenas for information from third parties.

We have argued this before when they went to the commission and the commission said there was no abuse of discretion.

We feel that they should go out to the third party instead of using irrelevant matdrial.

Certainly this shouldn't go in the record as stating that it is relevant to this case as far as the markets in this case, give the rate of return on the relevant markets as alleged.

MR. TOPKIS: Your Honor, I don't make much of this, as I tried to explain.

This is just a tabulation of material already in the record.

JUDGE BARNES: In the annual reports.

MR. TOPKIS: Exactly.

It presents the information in convenient form.

MR. THURMAN: I didn'thear anything like that.

I heard the witness say --

MR. TOPKIS: My friend, Mr. Thurman is not listening to what the witness said.

MR. THURMAN: I think I can almost quote the witness.

That this was taken from Moody's Industrial Manual because it was much easier to get from that and he cross-checked it in some way with the annual reports.

This doesn't say that this came from the annual

If it came from the annual reports, Moody's wouldn't even be in the picture.

So, I think I was listening and I think that is a fair characterization of what the witness said.

JUDGE BARNES: He said Moody's had updated the annual reports, didn't he?

Where there were restatements of the annual reports.

MR. TOPKIS: Thatis correct.

JUDGE BARNES: I agree that its relevance may be doubtful but I think there is enough relevance here to receive the exhibit.

I will receive BOCRX243 in evidence.

(Document referred to marked BOCRX243 in evidence.)

BY MR. TOPKSI:

Q Dr. Kridl, I show you BOCRX244 and ask you, if you can tell us what this is.

A This chart reviews per cent return on stockholders' equity after taxes for six of the same companies and it compares with the return available for all chemicals as well as for all manufacturing in the U.S.

Q And those last two lines are drawn fromthose FTC reports that we saw earlier?

A That is right.

Q And the balance of the information is drawn from those annual reports as revised and restated?

A In Moody's.

Q And checked against thd annual reports?

A Yes.

MR. TOPKIS: I offer it in evidence.

JUDGE BARNES: The copy I have has the word "corrected" written on there.

MR. TOPKIS: We always want your Honor to have the best.

It was corrected.

There had been an arithmetical mistake.

You may delete that.

JUDGE BARNES: Your objection, Mr. Thurman, is the same as before?

MR. THURMAN: I think we are going really far out now.

We are even going further than before.

I guess even on voir dire, I would like to know if he knows if he prepared this document in the same manner as the ones not listed, that he prepared, on the same chart.

Wd -- do we have apples and apples, or don't we?

Do you know, sir, if your preparation of the rate of returns were the same as the preparation by the

FTC for the other companies?

THE WITNES:S We used exactly the same method.

MR. THURMAN: Did you check into the methods that were used by the FTC?

THE WITNESS: Yes, we did.

The FTC's method is, in effect, taking the entire industry and then the entire chemical industry as defined by the appropriate SIC codes and dividing the net income after taxes by the total stockholders' equity.

This is what we did for the othjer companies. To the best of our ability we did it the same way.

MR. THURMAN: Do you know if the FTC uses consolidated returns from Moody's to arrive at this?

THE WITNESS: This I could not answer, sir.

MR. THURMAN: I ask you, Doctor, where did you get, for instance, the1973 figure for all chemicals?

THE WITNESS: That, I believe,is from the report which was introduced in evidence by Mr. Topkis.

MR. TOPKIS: May I ask the witness, is this what he is referring to?

I am handing the witness BOCRX 176.

THE WITNESS: This is the one, sir.

You will notice that this figure, 14.9 here is the average for the first three quarters, 13.8 is for the last quarter only.

MR. THURMAN: You took a quarterly figure?

THE WITNESS: We took these figures and divided by three rather than taking the first, second or third quarter.

It comes out 14.9.

M.R TOPKIS: We called in a correction to you.

THEWITNESS: I beg your pardon.

MR. THURMAN: I had the wrong one.

THE WITNESS: So this is simply -- 14.9 is the figure that I have. It is the arithmetical average.

VOIR DIRE EXAMINATION

BY MR. THURMAN:

QI I believe you said industrial gases is part of all chemicals and it must have a twenty to thirty per cent rate of return, sir.

A All chemcials?

Q Yes.

A No.

Which rate of return are you talking about?

Q This document shows a lower rate of return in industrial gases for several companies.

I assume itwas not inclusive of all industrial gases.

All chemicals is higher than anyone shown. Does that mean that all chemicals maybe has a twenty to thirty per cent,Qother industrial gas, rate of return?

What does it show?

A Weal, what it shows to me, is the following:

That industrial gases, on the whole, show a lower significantly lower return than the chemical industry as a whole.

Q The chemical industry must be very high, then; rigt, taking industrial gases out of it?

A Industrial gases, sir, are a reasonably small part of the chemical industry.

As a whole -- it would --

Q I ask you again, sir, I believe it is on the record, but these are not rates of returns for industrial gases; is that correct?

A That is correct.

Those are rates of return, stockholders' equity for six companies which are involved, to a larger or smaller extent in industrial gases.

Q So, industrial gases could be much higher than the rates shown here; is that correct?

A Let me --

Q Do you know or not?

A I do know that it is much lower, sir.

May I call your attention to two things?

May I call your attention to Burdett's,

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specifically.

Burdett is involved in essentially nothing much except industrial gases.

Q How about Big Three?

A Big Three is -- happens to be an exception to the rule.

I would be very happy to elaborate on Big Three.

Q How about Union Carbide? They have a lot more than industrial gases; correct?

A Yes.

But, Union Carbide, you will notice, which has a smaller percentage of its business in industrial gases of all the companies listed shows a much higher return on stockholders -- it shows a higher one than any other companies.

Thus --

Q You have no record to show that -- what the per cent of rate of return on stockholders' equity is for the industrial gases, do you?

A No.

Q You are speculating?

A Well, I am doing perhaps a ~~hot~~ lot more than speculating.

But, if you question thespecifics as to whether I can show you from a piece of paper per se from

Union Carbide showing the kind of return they are making in the industrial gas business, the answer is no, I cannot.

Q Do you know for a fact that the FTC includes industrial gases in all chemicals?

A I think they do. I could not swear to it.

MR. THURMAN: We submit there is no relevancy to this document, your Honor, and should not be received in evidence.

JUDGE BARNES: I will receive it in evidence.

(Document referred to marked BOCRX244 in evidence.)

BY MR. TOPKIS:

Q Dr. Kridl, while Mr. Thurman was questioning you, he asked about Big Three as to -- he called to your attention the fact that Big Three's percentage return on stockholders' equity after taxes seemed to be higher than that of the other five companies and you said to him you would be glad to elaborate as to why.

Could I ask you to do so?

MR. THURMAN: Objection unless there is a foundation.

Big Three could be called.

JUDGE BARNES: You will have to state the basis of your knowledge, Doctor.

A We studied the operation of Big Three in connection with some of my testimony, your Honor, which was thrown out earlier.

JUDGE BARNES: But you have had occasion to study the operation of Big Three?

THEWITNESS: That is correct, and their financial condition, rate of growth.

JUDGE BARNES: Did you study this from publicly available records?

THE WITNESS: We studied it largely from publicly available records supplemented by talking to two or three, as I recall -- two or three of their customers, what they thought.

MR. THURMAN: I submit, talking to a customer could not tell you anything about the company itself.

Certainly the people to talk to is Big Three. They are the ones to testify.

You can't bring a man in to testify about companies throughout this country.

He says only thirty per cent of their business is with commercial companies.

Everything else is with the government, if I understand his testimony right.

Now he is starting to talk about all these companies, what each companies does.

I am just amazed that respondent doesn't call third parties to get out information that they consider relevant to this proceeding.

Trying to put it in one ball of wax by a person -- I don't know that he ever visited their company headquarters at all.

THE WITNESS: Your Honor, could I correct some misinformation which I might have left in Mr. Thurman's mind?

The institute as a whole does 65 to 70 per cent of its business. The center I am in does 97 and a half per cent of its business with private industry.

Q Now, based on your study of Big Three and without regard to what its customers might have told you, can you give us an explanation or is there some elaboration that you can offer on the answer that you previously gave to Mr. Thurman?

MR. THURMAN: I believe there is an objection.

JUDGE BARNES: Based on his study of publicly available documents, I will permit him to answer the question.

MR. THURMAN: Maybe we can -- may we know what publicly available documents he studied?

We might want to call him back on cross-examination or delay cross-examination.

JUDGE BARNES: Tell him, Doctor.

A The publicly available documents that we studied were, first of all, the annual reports of Big Three.

Secondly, we maintain active clipping files of public articles in various trade journals, the Wall Street Journal, Fortune, Chemical Week, what-have-you.

All this serves as a valuable source of infomration for the initial study of any company.

JUDGE BARNES: Is Big Three traded on any of the stock exchanges?

THE WITNESS: Yes, it is, sir.

JUDGE BARNES: So their annual reports are public?

THE WITNESS: That is correct.

MR. TOPKIS: They are in evidence, as a matter of fact.

Your Honor, can't we have one objection to a question?

Every time I ask a question we get a series of objections to the question.

We'll go on forever.

MR. THURMAN: As long as he keeps putting in hearsay -- whoever heard of clippings from a journal being probative evidence.

As a lawyer, I have never heard of such a thing.

Maybe as a layman --

MR. TOPKIS: You might try a libel suit some time.

MR. THURMAN: We are not in a criminal law case now.

MR. TOPKIS: They are usually civil but we'll pass that too,

Your Honor, can't we hear the witness' -answer?

If it is objectionable, it can be stricken, of course.

JUDGE BARNES: Yes.

THE WITNESS: Big Three in my opinion has some very good things going for them.

First of all, they are favorably located in an area inwhich the concentration of users, principally chemical ones, is very high.

That is to say, in the area of Texas, Houston.

Secondly, they appear to have, at least by all the evidence that we have been able to find, to have very young and aggressive management.

They appear to be extremely aggressive in their generation of new business and they have, to the best of my knowledge, a -- they are very highly regarded by their customers.

The effects, have shown on not only their return on investment but also on the rate of growth, they have had over the years, which one can ascertain merely by reading the historical data contained in their annual report.

Q Do they use a particular form of distribution?

A They use quite a bit of pipeline.

Q Does that differentiate them from other industrial companies?

A I believe they have a considerably higher percentage than anyone else.

Q Is pipeline more or less expensive as a technique of distribution?

A It is considerably less expensive than sending it say, by cylinders or tank truck.

Q You mentioned that they are in Texas, the Houston area.

Is that a particular area of industrial growth area or industrial decline?

A This is the greatest area probably in the United States of Industrial growth probably in chemicals and oil refining.

Q Now, Dr. Kridl, you have spent, I gather, from your earlier testimony, a good deal of time inthe last ten or twelve years advising companies as to whether or not to go into newsproducts, make acquisitions and enter new markets; is that right?

Q That is correct, sir.

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Q As of November 1973 if British Oxygen had asked you, would you have recommended that British Oxygen enter the U. S. Market on a Greenfield basis?

A No.

Q Would you please explain why not?

A The reason is several-fold.

First of all, entering the U. S. industrial gas market on a Greenfield basis is frought with very considerable danger.

The biggest danger is an economic one.

Specifically, supposing you want to enter the field, Greenfield, in order to build any kind of areasonable size plant, you have to have some contracts in hand for the plant's output.

In order to get these contracts without having a plant, in order to overcome the natural reluctance of clients not wishing to deal with somebody not having a plant on site, you would have to offer them extremely favorable terms.

- Therefore, it is very doub-ful whether the first plant could make money either originally or after a period of time.

The worst part of it is that once you get into this business, it is very difficult to enter into this kind business on a Greenfield basis, it is damn near impossible to construct a cash flow curve which will show you at which point your losses are going to start turning around and become profit.

This would be the principal reason. That because of the very strong competition in the United States, there was no way that you could calculate ahead of time, with any degree of accuracy as to when your losses might stop.

Q Are there any other reasons that would have caused you in November to recommend against BOC's making of a Greenfield entry?

A The principal reason overriding, perhaps almost any kind of an entry into theUnited States Industrial gases market is that without trying very hard, we can find a lot better places for one's money.

Q Any other reasons?

A Those two would be the chief ones that I would recommend against a Greenfield acquisition because you are starting from scratch with no base load.

You have to spend all kinds of money before you can get your first penny and you don't know -- there is no way you can really calculate when your losses are going to stpp.

Q Let me ask you this, Dr, Kridl.

Are you familiar with the term "toehold entry"?

A Yes, I am.

Q How would you define it?

A I would define toehold entry as an entry into a market by acquiring two or three small, quite small operations, somehow or another combining them into a viable, larger organization.

Q Would you in November of 1973 have recommended to BOC THat the attempt to enter the United States industrial gases business by a toehold entry?

A No, sir, I would not have.

Q Would you please explain why not?

A There are two principal reasons for toehold entries.

Reason No. 1, appropriate toeholds -or toes, if I may so express myself, are largely lacking in the United States.

If one takes a look at the list of all the producers of industrial gases, after you go through the first big five or so,they drop off.

The only one that might, in principle represent a **possible** toehold acquisition is Burdett and Burdett has, over the years, been a financial disaster.

Q That is Burdett of Cleveland?

A That is Burdett of Cleveland.

That has been a financial disaster.

Trying to acquire something much smaller, and everybody that is left below Burdett, I believe has annual sales of less than $5 million, represents, what is sometimes known in the acquisition theory as the elephant-mouse theory.

The results will be disastrous for the mouse. Not necessarily sexually but financially.

Q You wouldn't want to tell us how the -- how much the elephant is going to enjoy the experience.

A Well, presumably, whatever turns the elephant on.

I have seen several examples of large companies acquiring some very small. Something very sdmall normally exists by the wits of the owner.

He is the one that entertains the local business man in the country club and he knows whose wife is having a baby so he can send the appropriate flowers.

If they run out of oxygen at three o'clock in the morning, he will get out of bed, if necessary, to deliver it.

Furthermore, he ofnentimes operates non-union, he doesn't have very many fringe benefits to his employees.

The minute a large company takes over such a mouse, it being an elephant, makes the mouse to try to look like a deer at the very minimum.

That means that fringe benefits get slapped on, large company mentality starts going in, that is to say, if somebody needs gas at three o'clock in the morning, let them wait until 9:30 when our delivery man will call on them.

Furthermore, trying to combine regionally vastly separated very small companies i-to a big one will be, in my estimation, a very difficult job with very uncertain financial returns.

Again, in my estimation, a toehold acquisition is not worh it.

The only one that can argue, for example, whether Big Three is a toehold, according to some definitions, it mgith be and according to the others, it might not.

Big Three would be an excellent acquisition but British Oxygen couldn't afford it because of the three to one price earnings ratio of the respective stocks.

Q Differences in price earnings?

A That is correct, the three to one difference.

Big Three has traditionally sold between 19 and 21 and British Oxygen is selling around six or seven.

You are buying something which is extremely expensiv if you are doing this. Or else you would have to spend tremendous amounts of money on which you would have to pay interest.

Q Are there any other reasons which come ti mind, Doctor, as to why a Greenfield or a toehold entry would not have been someth ing that you would have recommended to BOC last November?

A My principal recommendation, the reason for recommendation would bve, in my opinion, that it would be extremely difficult if not impossible to make a viable profitable business out of it, entering the field in this fashion.

Q Dr. Kridl, have you had experience in recent years studying the economies of other countries around the world, other than the United States?

A Yes.

Q Would you tick-off for us some of those which you have had experience with?

A Well, I have had experience with the economy of England, France and some of Poland, for obvious interests, since I was born there.

Q How about Brazil?

A And Brazil as well, I'm sorry.

Q Haveyou made recommendations to plant construction and business entry in Brazil?

A Yes, I have.

Q Would you have said, if you had been advising BOC last November that the company could find other countries in which to invest money in industrial gases that would have been preferable to the United States?

A Without any question.

Q Would you tell us how and why?

A I would, first of all -- it is widely recognized that the competition including price competition in the industrial gas field is higher in the United States than almost any other place in the world.

The fastest developing economy in the world right now is probably Brazil.

So, I would most likely have advised them, if they wanted to expand overseas, to go to Brazil.

Another possibility, there is a good rate of industrial gases in certain parts behind the iron curtain.

If appropriate monetary considerations could be made, money could probably be better spent over there.

Q Dr. Kridl, as you know -- as you look around the U.S. today, or as you might have this past November, would you have seen companies possessed of the economic and technological resources to enter the industrial gases business anew?

A Certainly, there are any number of them. All you need is money.

Q What are the companies or what business are they currently in?

A They could be in almost any kind of a business from petroleum refining to natural gas distrfibution to glass making to making automobiles.

Anybody can do it. It is all a question of money. It is a question of, A, having money, and B, being satisfied with, at best, what might be termed a fairly modest rate of return.

Q Suppose one of these companies entered the business, Doctor, where could they get marketing skills?

A Well, they could buy it.

Q How do you mean?

A You go and you put in an add in the Wall Street Journal and a few other assorted papers of that sort where the marketing people might congregate and you get them.

That is the simplest thing in the world.

Q Doctor, you have had a fair amount of experience down through the years with companies entering new markets?

A Yes, I have.

Q Have you, on occasion, put together such sales staffs?

A Yes, I have.

Q And you have used the techniques that you have just described?

A Yes.

Q Are they frequently or infrequently used in American business today?

A They are used very frequently in the American market whenever theywant to enter a brand-new field.

Not necessarily brand-new but a field that is allied to the one that they might be in already.

Q Do you use these techniques to get a new sales staff?

A Sure.

Q According to your understanding, does Airco today have any plant building capacity in the air separation field?

A To the best of my knowledge --

MR. THURMAN: Objection.

You are talking about something which is in the record.

You have it from Airco people.

JUDGE BARNES: I assume this is a background question.

MR. TOPKIS: Of course it is.

I agree with Mr. Thurman. Of course Airco has no such capacity.

Q Is that your understanding?

A My understanding is that they had at one time as a joint venture with British Oxygen Company, which matrimony had not been dissolved some two or three years back, as a joint venture.

JUDGE BARNES: How was that knowledge acquired, Doctor?

THE WITNESS: This was a matter of public record, your Honor.

There is no reason why your Honor should be familiar with the vast volume of the technical trade literature that exists in the chemical industry but there are so many magazines, on the whole rather well edited, that you hear things --

JUDGE BARNES: My questionwas directed, I guess -- well, did you get that information from reading the transcript s in this proceeding?

THE WITNESS: No, sir. I knew that before. I forgot now in what connection.

I recall also seeing in the proceedings here.

I'm sorry, I think when I first learned about it was by reading one of the past studies that was done in the Stamford Research Institute.

Q In your opinion, sir, against that background, does BOC's acquisition of a stock interest in Airco have any effect on competition in the tonnage field in industrial gases in the United States?

MR. THURMAN: Objection.

This is an ultimate conclusion which your

Honor will decide.

JUDGE BARNES: An expert can give his opinion on this.

MR. THURMAN: Well, I guess I am still confused.

Is he an expert in industrial gases, in marketing, entering the industrial gas field?

JUDGE BARNES: Yes.

He has been offered as an expert.

You may answer the question.

MR. THURMAN: Before you answer that question:

I would like to remind your Honor that complaint counsel was prohibited from asking about companies in the field, as to whether this acquisition had any effect on their company.

That was to be decided by your Honor.

How can this man say what impact it will have if the compan y couldn't say it.

He certainly is in a better position that some witness sitting out here in SRI getting paid to tell people what they are going to do or what they are not going to do.

JUDGE BARNES: He is being offered as an expert and this is a proper question for him.

I will permit him to answer.

A In my opinion the entry ofAirco -- the entry of BOC into the United States market via the acquisition of Airco **has a pro-** competitive effect.

Q Would you explain, please?

MR. THURMAN: I object to that and move that it be stricken.

This basis is that it is a legal conslusion.

Whether ti is proper or anti-competitive is a legal conclusion.

Strictly legal and there **is no** qualification this gentleman has a not of qualifications but none to practice the law.

MR. TOPKIS: If he were given an opportunity to answer the question he would have an --

JUDGEBARNES: He will give his basis for the answer now.

A If I may, I am not a lawyer.

I was using **pro-** competitive in the layman's sense, meaning **enhancing competition.**

Q Would you tell us now how, sir?

A In my opinion the financial record over the last ten years or so will show that British Oxygen Company has had a rate of growth in sales andearnings approximately two or three times that of Airco.

This, certainly, among other things, primarily testifies to the aggressiveness and the ability of the management of British Oxygen.

Airco in the United States has been losing ground, versus some of their competition.

I would therefore expect that matrimony, however slight, between British Oxygen and Airco would -- I would expect it to result at the very minimum, in the injection of aggfessive marketing and development methods of British Oxygen into Airco which, thereby, will certainly increase competition.

More specifically, I would certainly imagine that Airco might reenter, together with British Oxygen, the business of building plants and thereby creating more competition in that area as well, not only in industrial gases.

If Airco is to grow, and I would imagine that British Oxygen idd not buy in solely in mind as an investment, certainly they could have found a hell of a lot better ones. I am sure we'll agree on that.

Their objective is to make the company grow. The only way they can have them grow is to have them become more aggressive, enhance the competition and become more competitive.

That is my reason for stating it.

Q Just a couple of questions and I am done.

There has been testimony in this record with reference to a German compan y called Hoechst.

I would define the thought that you might have some familiarity of that company.

A I do.

Q The record is silent as to that company's size and its --

MR. THURMAN: No foundation as to how he knows. I object.

JUDGE BARNES: He said he has some familiarity and I think we ought to know how.

A Hoechst, Basf and Bayer are the three ofshots of I.G. Farbin, which, if your Honor recalls, was broken up after World War II.

This is one of the three, Hoechst is one of the three chemical companies -- chemical giants in Germany and their sales are somewhere between 3 and 4 billion dollars, depending on what **Deutsch marks are** worth.

Q Do you know of Hoechst has any operations in the United States?

A Yes.

There is a company called American Hoechst.

Q Do you know what they do?

A They have a fiber subsidiary, this I know. They make polyester fibers.

Q Does the word Trevira ring a bell?

A That is the trade name for Hoechst polyester fiber.

Q Is Messer-Griesheim a subsidiary of Hoechst?

A Yes.

MR. THURMAN: I move that the last two questions with respect to this German company be stricken.

It has no relevancy to this proceeding.

MR. TOPKIS: Well, I think your Honor will recall that on an earlier witness there was testimony that Messer-Griesheim was a German compan y engaged in the industrial gas business, having plant building capacity.

And there was tstimony that it was particularly powerful inthe field bec ause of the backing that it had, specifically the backing of Hoechst.

The witness was asked, well, what do you know about Hoechst and he said I can't claim personal knowledge.

It was for this reason that I asked Dr. Kridl to fill in that hole.

Q Now, just one final question.

Have you stidied the degree to which the industrial gas business in the U.S. keeps its plants up to technological snuff, that is to say, is it a business in which modern technology is prevalent or is it a business coasting on plants of 50 and 100 years ago?

A   Well, it is certainly not the New England textile industry.

They have to stay ahead of the game, primarily in constructing larger and larger plants.

This creates all kinds of engineering problems, so the companies have to stay ahead, at least in the chemical engineering aspect.

Q   Thank you very much, Dr. Kridl.

MR. TOPKIS: I have no further questions.

JUDGE BARNES: Let's take a ten-minute recess.

(Recess taken.)

JUDGE BARNES: On the record.

CROSS-EXAMINATION

BY MR. THURMAN:

Q   I believe you said you are being paid to appear, is that correct?

A   Yes.

That is to say, we were engaged, SRI was engaged by the British Oxygen Company to appear.

Q   What were you paid?

A   The standard rate, with which my time is billed out.

Q   What is that?

A   I think, in my case, it is approximately $400 a day plus expenses.

Q   I don't recall seeing your previous testimony in this case.

You haven't been present when other witnesses testified, have you?

A No, sir.

Q A lot of your conclusions have been testified to in this case.

I assume you have read transcripts, have you not?

A Yes, sir. I read the transcripts of the Washington proceedings, which I believe was the case which you presented.

Q Have you read transcripts of any of the defense witnesses?

A No, I have not.

Q I am not clear on the charts that you prepared.

Were they prepared for this litigation or were they previously prepared during some study?

A Well, parts of these charts, sir, were prepared in connection with theprevious studies that we had done in the field of industrial gases.

They have all been updated and since they are being offered in evidence, checked ad infinitum by all of us.

Q Now, have you talked -- have I talked to you previous to your testimony?

A Yes.

You called me in San Francisco -- I should say in Menlo Park.

I was not in my office and I had returned your call, I believe it was in one hour.

Q Did we talk about the testimony, the substance of your testimony?

A No, sir, we did not.

Q Why not?

A Well, you didn't ask.

Q Well, didn't you tell me that you were ordered by Mr. Topkis not to talk to me unless he was present?

A I told you, sir, to the best of my recollection, that I was advised by Mr. Topkis and Mr. Kaplan not to discuss anything with you dealing with the case unless one of them was present or one of their representatives.

Q Is Mr. Topkis or Mr. Kaplan your personal lawyers?

A No, they are not.

As far as I know, I am not accused of anything.

Q But you could talk to who you please then, couldn't you?

A Oh, surely.

Q But you chose not to talk to me unless they were present?

A One of my regrets, Mr. Thurman, is that I am not a lawyer.

Neither do I try to be my own laywer. I deal with a firm of lawyers who are my clients. I have to follow what they tell me or else if I have any objections, I have to spell them out to them.

Q Now, I believe you testified that one of the principal reasons of unit value dropping over the year was due to the exertion of downward pressure by users.

Now, who told you that?

A Well, sir, this is a fairly common thing in the chemical industry.

This is not an isolated example, by any means.

We get, all of us who deal with areas of corporate development, we get into these kinds of future price considerations continually and this is merely the first thing you look at when you -- I should say one of the first things you look at when you consider future pricing of any commodity.

Q Now, isn't it true that the large users of oxygen usually use pipelines,that they are long-term contracts?

A That is correct.

Q How can they exert influence of a long-term contract of pushing the price downward?

Wouldn't the contract call for pushing the price upward?

A Well, the only thing I can testify, sir, is that most contracts with which I was involved in when I was in the industry had had escalation clauses in them.

Normally speaking, when you engage anybody in a long-term -- if you talk to anybody on a long-term contract, you clearly want to get the lowest price you possibly can and one of the easiest ways of getting that lower price is to waive, principally, an engineering drawing of that plant from which your supplier, potential supplier, is supposed to supply you and convey to him the impression the best you can that if he doesn't supply you at the price suitably low, you are going to the manufacture of this material yourself.

Q Does this happne in any industry where you have a large user?

A The only industry in which I am competent to talk about this is the chemical industry.

I have no knowledge of any other industries very much.

In the chemical industries this is very common.

Other examples, in the past years, for instance, the spiraling price was always kept low enough to prevent rubber companies to integrate backwards into the manufacture of --

Q The company had a 15-year contract and in the third year that price had dropped.

You mean to tell me they were going to breach that contract if the industrial gas company doesn't drop its price?

A With all due respect to the legal profession, their undoubted skill in writing contracts, I am yet to see any supply contract which couldn't be broken one way or the other.

Q If a company had a certain price one year, in the contract, certainly wouldn't use the threat, they would be willing to pay the same price at least, the next year, would they not, use the threat of backward integration to get the price down the next year on a downward scale?

A This is a complicated question, because most of the long-term contracts contain what is known as the most favored nation clause, and this clause, in effect, states that you are going to get your product from your supplier at the price as low or lower than he supplies it to anyone else.

Consequently, the prevalent level of p is always monitored by anybody having long-term cont s because there is always competition on the side.

Q Isn't it true that in industrial gases, it is mostly fixed costs and very few variable costs?

A The chief variable cost is the cost of power, I would say.

The labor costs for a reasonably-sized plant are reasonably low.

Q The demands are fixed each year and you have your variable costs, wouldn't the unit price go down?

A That is correct, sir.

And this, you will recall, wasmentioned as not one of the contributing reasons.

A larger size plant obviously has a lower unit cost.

Q As demand increases cost decreases, is that right?

A Not necessarily.

If you had a plant, let's say, of 200 tons a day capacity, if you are operating the plant at 150 tons a day and if you run it up to 200, your costs will decrease.

If you have a fixed plant capacity and you are asked to supply 220 tons a day, your marginal cost may in fact increase.

It may increase over the rated capacity. As long as you are below the rated capacity and going up to the rated capacity,then clearly the costs decrease, that is correct.

But once you get above it, then you get into a very complex situation.

Q Let's talk about capacity a little bit.

What is the balance between supply and demand over the last 18 months or 2 years?

A Which area, sir?

Q Industrial gases.

A To the best of my knowledge, the supply and demand varies regionally.

In other words, in certain regions I am told the supply-demand situation is quite tight and in other regions it is quite adequate.

Q You were told this or you read it in the record?

A Some of it I read in the record and some of it was in at least one article that I read in Chemical Week.

This is a very popular topic of discussion amongst all the people in the chemical industry.

Q I believe you testified -- isn't it true that each purchaser is now using more industrial gas each year than he was the year before?

A No, sir.

I don't think I could have testified to this because there is no way of knowing.

Some of the lartger ones clearly are using the-- certainly the steel companies, there is a definite upswing in the demand for steel in the last two or three years.

Most og them are using more.

Q A lot of your purchasers now are now purchasing now through pipliens rather than cylinders?

A Well, the trend for a larger user is clearly to use it as much in bulk as possible.

Thatis to say, by pipeline it is cheaper.

Q That is what w was going to say.

A Yes.

Q The cost to the customer and the cost of getting that to the customer is cheaper?

A The cost bb the customer and the cost to the supply.

Q That would have considerable effect on the unit cost, is that right?

MR. TOPKIS: What would have, the broadening use of pipelines? Is that it?

Q Do you understand?

A I don't know what you are referring to.

Q The conversion from cylinder to bulk.

A Certainly.

The conversion from cylinder to bulk will have a pronounced effect on the total unit cost.

Q Do you know what has happened to the prices in industrial gases in the last 18 months to 2 years?

A Wtihout any question they have been going up, in some places quite significantly.

Q Going back a little bit, on your qualifications, have you had graduate studies in economics?

A You mean such as microeconomics, or do you mean chemical economics?

A Economic theory.

A Idid not have any formal courses in that, sir.

Q Have you had any publications in the economics of industrial gas industry?

A No, sir.

Q I believe you testified there were 32 companies in this --

A I believe this is the rough number.

Q -- in this industry.

Would you name them, please?

A I could not off the to p of my head, but I will be more than happy to send you the list of them.

MR. THURMAN: Would you read the answer back, please.

Q I don't think the list would do me any good.

I would like to know what you know when you talk about these companies.

Can you name the air separation gas companies?

A Well, there is certainly Airco, Air Products, L'Air Liquide in the United States, Unkon Carbide, B-urdett Oxygen, Big Three, Alabama Oxygen.

Some outfit in Honolulu whose name escapes me, have a reasonable size. There are 20 or so other small ones.

Q Pacific Oxygen?

A That is one also.

Q Did you name both Burdetts?

A I named one.

I didn'tname the Burdett of Norristown.

Q How about a company named Chemitron?

A That is a big one.

Q What percentage --

JUDGE BARNES: Liquid Carbonics.

THE WITNESS: That is the division of Houston Natural Gas, isn't it?

Q Do you know thepercentage of the total industrial gas shipments that would be provided for by the top eight people?

A I have not made that calculation.

But my impression is that it is over 70 per cent.

Q Do you know what percentage of the industrial gas shipments would be accounted for by Airco in 1972?

A I have numbers at home divided by cases.

I don't have it off the top of my head.

Q Airco, Air Products and Linde would be the big three?

A Well, Linde is reputed to be the largest.

It is a little difficult to say because the carbide annual report doesn't break it up.

But Linde, Airco and Air Products are the largest, yes.

JUDGE BARNES: Do you know of any companies that have gone out of the business say in the last six or eight years?

THE WITNESS: Yes, sir.

I believe Exxon did, which used to be Standard Oil.

Q What happened to them?

A They acquired a company and then they sold it out to L'Air Liquide.

Q Do you know why they sold it out?

A From everything I understand about it, this was another proof of the mouse-elephant matrimony that didn't work out.

Q Could it be that they didn't know how to run an industrial gas company?

A It could be.

Q It wasn't compatible with their technology?

A Well, I doubt whether technology had anything to do with it.

I think, in my opinion, it was more likely that Exxon could not very easily control the running of a small business which had to be very responsive to customers' demands.

Q A small business? What was the size, do you know?

A It was somewheres, so far as -- as best as I recall, when they were first bought, the size was under 20 million dollars.

I think the amount was between 10 and20.

Q I believe you testified that a company could integrate backwards and then they would have excess to sell to the merchant customers.

A Yes.

Q Does it take some modifications of a plant to sell to merchant customers?

A Yes -- the only modification, sir, that might be readily envisaged is a tank truck, filling facility, that would be modification.

Q Would they have to have a liquifier?

A Well, I'm sorry, but at one stage or another that stuff has got to be in liquid form, so you just don't vaporize it.

JUDGE BARNES: I was giong to ask you that myself.

When a plant makes pipeline oxygen, does it have to reduce the product to a liquid form before it can transport it down the pipeline or is there a shorter manufacturing process?

THE WITNESS: Well, your Honor, there are both liquid and gas pipelines for oxygen.

So, this can be piped either way.

JUDGE BARNES: Is there any percentage one way or the other, more one way than the other?

THE WITNESS: I believe the numbers in the records will show that much more is piped as gas rather than liquid.

JUDGE BARNES: And the manufacture of that gas, that -- does that have to go into a liquid state before it can be pipelined?

THE WITNESS: In the manufacture **in** the **fractionating** column, it has to go through a liquid stage at one time or another.

Q There would be an extra cost involved if they went to selling gas; isn't that correct, if the compan y was only in it for its own use?

A Certainly there would be modest extra costs involved, there always are.

Q Modest or substantial?

A It depends, sir, as to if I run a thousand ton a day plant and I choose to sell maybe 10 or 15 tons a day to a few selected customers, my costs might indeed be rather modest, I might get away with one salesman.

If I chose to expand the plant to 1300 tons a day and sell 300 tons on the merchant market, my costs might be rather substantial.

So it would be with rspect to the size of my ambitions in the merchant market.

That is how the costs would vary.

Q I believe you said that when these companies are integrated backwards, it would give a lower price to their merchant customers.

Do you know of any steel company producing and selling industrial gas, selling gas in the merchant market?

A I have heard it said that occasionally U.S. Steel and Ford will sell some of the excess capacity to others.

Q This is hearsay, I take it?

A That is correct, sir.

Q Does this hearsay include knowledge of who these customers are that they sell to?

A I cannot recall specific names.

Q Do you think it is feasible to sell to their competitors?

MR. TOPKIS: U.S. Steel and Ford?

MR. THURMAN: Yes.

Q One steel company to sell to another?

A Yes, that is being done all the time in other parts

You can getyour pound of flesh for it, I suspect.

JUDGE BARNES: The industrial gas companies buy and sell, buy from and sell to each other, don't they/

THE WITNESS: Certainly.

Q Going back to unit costs for a minute, are the unit costs of a 1,000 ton air separation plant greater than a 100 ton plant for operating capacity?

A I would imagine it would be measurably lower for a 1,000 ton plant.

Q Is the industry moving toward construction of larger plants?

A Yes.

Q Now, all of these factors are principal reasons for lower unit costs; isn't that correct?

A Well, all the factors we had mentioned.

Competition, threat of back integration, larger plants, and another one which I mentioned in my direct testimony was a large expansion of capacity in the mid sixties.

Q Larger quantitypurchasesswould be involved there?

A Certain larger quantity purchases would also be involved.

Q Getting onto pricing, I have heard that top companies price on a basing point scheme, especially the top three companies.

Do you know anything about that?

Do you know what a basing point scheme is?

A I know what it is when it is applied to quantities of chemicals other than industrial gases.

I don't know in detail -- I do not know how this would work for industrial gases.

Q The basing point scheme takes collusion, is that correct?

MR. TOPKIS: I haven't heard such a suggestion in quite some time.

I object.

JUDGE BARNES: Are you using the word collusion in an unlawful sense?

MR. THURMAN: It is a term --

MR. TOPKIS: The witness said he doesn't know anything about basing points.

Asking him more about it seems to be a waste of time.

JUDGE BARNES: Ask him how a basing point scheme works.

MR. THURMAN: I am asking him how it works.

Q How does a basing scheme point work?

A I believe, sir, that --

MR. TOPKIS: Pittsburgh Plus in the steel industry?

What is he talking about?

JUDGE BARNES: I think he is talking about pricing and et cetera.

A I believe I answered that if there is a basing point scheme in the natural gas industry I have no direct knowledge of it.

JUDGE BARNES: Industrial gases.

A Yes, I'm sorry, industrial gases, and I couldn't testify to it.

Q I thought you knew all about pricing in the industrial gas field.

Q I didn't claim ommissions of any kind, I think the record will show.

Q Do you know if there was any non-price competition in the industrial gas market?

A I am sure there is.

This is a traditional way in which the small companies compete against the big ones and there is no reason to suspect that the industrial gas market is different from any other chemical market.

Q You are familiar with phantom freight?

A I have heard the expression but I would rather not testify to any of this because this is used in various ways by various people.

Q Do you agree that basing point pricing, either single or multiple basing point pricing is inherently anti-competitive?

MR. TOPKIS: Objection.

To borrow some words from a friend of mine, he calls for a legal conclusion.

JUDGE BARNES: Objection overruled.

THE WITNESS: Your Honor, forgive me, before I attempt to answer that --

A Mr. Thurman, would you be good enough to define to mewhatyou mean by basing point pricing?

Q Do you know what I mean?

A I know --

MR. TOPKIS: I think the witness is entitled to know what Mr. Thurman means if he is being asked about it.

JUDGE BARNES: We should have either one version or the other.

I would just as soon have the witness' version.

THE WITNESS: With your Honr's indulgence, May I be permitted to say what I understand basing point pricing to mean as it is used in other parts of the chemical indistry, to me it means that the freig ht on the material is equailized to the nearest supply point.

Q It could be qualized or it couldn't.

Basing point, probably could be phantom freight where it is charged freight fron one point when it is not shipped from that point, where it is shipped from a closer point.

Does that mean anything to you?

A I don't understand exactly what you are talking about.

Q Does it mean anything if it is shipped -- as far as basing point is concerned, have a base, fob price and then freight from that point even though it is shipped from a closer point?

MR. TOPKIS: I object.

I think the question is incomprehensive.

JUDGE BARNES: Do you understand the question?

THE WITNESS: I have a feeling that Mr. Thurman is referring to a practice in the steel industry and not the chemical industry.

Perhaps we are talking about two completely different things.

I don't know how steel is sold.

Q Well, getting back to the basic question, you don't know if basing point pricing is used in industrial gas or not?

A This is what I testified to.

Q I would like to go along to entry.

Is it your position that no one can enter through grass roots or through a de novo type entry into the industrial gas market?

A "Nobody" is a very large word.

If somebody were foolish enough to try, I should imagine that on a grass roots or de novo type basis he could in fact enter the U.S. market and sometime, X number of years, X being the number, a reasonably large number, say greater than 5 or 10, he could probably make some money on it.

My opinion is it would be a foolish business decision.

Q You agree it would be ~~mre~~ pro-competitive to have an entrant in denovo rather than to come in with a large company already in the market?

A Mr. Thurman, you objected to the use of my word anti-competitive.

If you mean pro-competitive, in the legal sense, I am not competent to answer.

Q We'll go to toehold.

I believe your definition was to take a couple of small companies and expand them into a viable company?

A That is correcct.

Q I believe you testified that it is not feasible for BOC to acquire a small company and expand that in this market?

A I testified, sir, that this would be a rather silly way of going about it.

It is a path frought with considerable danger and bad economic consequences.

I did not say it was impossible.

Q Did BOX ask you your opinion before they entered through Airco?

A They did not.

Q I believe BOC is in the record that they desired to enter this market.

Of course, it represents 50 per cent of the world-wide market, and of course in the long run in the 80's or 90's, you would have to enter; do you agree with that?

A With what, sir?

Q A company to be in the world market would have to enter the U.S. market at some period of time?

A I would not necessarily agree with that.

It is a business decision and it all depends what the objectives of tho business are.

If the objectives are primarily to make money, ten I don't think the business ought to enter the United States in the industrial gas field.

If it is primarily to grow by whatever means possible, it is then a different story.

Q Now, I believe you said it would be a disaster to acquire a small company or expand a couple of small companies.

Are you familiar with L'Air Liquide?

A Yes.

Q Do you know how they entered?

A I am familiar with it but they bought, I believe, initially they bought the American Cryogenics that they bought from Exxon which, at that time, was of reasonable size.

It had abou- 15 to $20 million worth of sales. Then they acquired another company that had about 10.

Q Let's stop a minute on American Cryogenics.

I believe you said Burdett was in bad financial condition?

A Yes.

Q Are you aware of the financial condition of American Cryogenics when it was acquired by L'Air Liquide?

A I am informed that American Cryogenics was in fact losing money at least on Exxon's books at the time it was acquired.

Q About $4 million a year on $15 to $20 million?

A I don't know the number.

Q You would say that is a disaster, wouldn't you?

A I could not answer your question without having a detailed access to the books of the company.

I don't know how much of this might have resulted from excessive depreciation charges which are always slapped on the acquired company by the acquiring company.

How much excess payroll there might have been in American Cryogenics and a few other factors.

Q You had access to public records, didn't you, at the time of the acquisition?

A I'm sorry, I don't --

Q You have been looking at the industrial gases market, I understand, and you depend upon Moody's and the annual reports.

Did you consider American Cryogenics, what their performance was at the time of the acquisition?

A To the best of my recollection, American Cryogenics was acquired by Exxon before we started doing anything specific in the industrial gases field and consequently they were no longer available.

Q I am not talking about Exxon.

I am talking about Liquid Air.

A I don't understand.

Q You were also looking at these companies, were you not? Did you know what Liquid Air's condition -- American Cryogenics condition was at the time of the acquisition of LiquidAir?

A I am still confused.

Your question -- does your question pertain to the financial condition of Liquid Air or the financial condition of American Cryogenicx before they were acquired by Liquid Air?

Q American Cryogenics at the time they were acquired by Liquid Air.

A At that time there was no way that one could get from any public records the condition of American Cryogenics because they were a part of Exxon and Exxon does not, so far as I know, at least I have never seen it published, the financial results by subsidiaries.

Q It was consolidated and Exxon, like some of these companies were consolidated, that you put in the record; is that correct?

A I'm sorry.

Q You can't tell what Linde is because it was consolidated with Union Carbide, that has gone in this record, is that correct?

A This is quite right.

We cannot, as was discussed previously, can tell exactly what the financial performance is of any part of a company which is engaged in more than one product line.

Q Do you know what Liquid Air did with American Cryogenics?

Did they turn it around?

A My information is that they did.

Q Do you know where the companies were located that Liquid Air acquired?

A Well, I don't know where American Cryogenics is.

The other company that they acquired I believe was in Texas, but I am not sure.

Q The one company was in Louisiana, one in Phoenix and one in the State of Washington.

How would you reconciloe that with your testimony that BOC couldn't acquire a couple of small companies because of the geographic location and make it a viable company?

A The reason for my statement was that at the present time there are no comapnies outside of Burdett that have sales in the area of between 10 and $20 million.

The only companies that are available for toehold acquisition are those having annual sales of under $5 million.

Q Do you know what Burdett of Cleveland sales are?

A I believe I made exception in the case of Burdett and I think their sales are on the order of 11 or $12 million.

Q How about Chemetron?

A Well, that is one of the big ones.

Q Now, do you know where National Welders is located?

A No. I have heard the name.

Q Are you familiar with Selox?

A I have seen the name but I am not familiar with the company.

Q I am kind of curious about one point of your direct examination.

How much of Big Three would 80 million dollars buy?

A Well, if you give me the access to the records that his Honor has, I could probably calculate it for you inside of ten minutes.

Q You don't know offhand?

A No.

It depends how much the stock market --

Q I thought you testified that BOC couldn't afford Big Three?

A They couldn't afford it.

The reason is that this would result in very considerable dilutions of earnings per share of BOC if the acquisition were to be made on the stock exchange, on a shares exchange.

You would have to give out three times as many -- your price earnigs ratio is different by a factor of 3.

I did notsay that BOC couldn't afford $80 million.

Q Could they acquire the assets of Big Three?

A Do you mean in principal?

Q Yes.

A Certainly.

So could anybody else, provided Big Three was willing to sell.

The indications we had was that the management doesn't particularly want to be acquired by anybody.

Q I am a little confused on your opinion that BOC's acquisitio- of Airco would enhance competition.

Are you talking about enhance competition with the companies their size or what effect would that have on the smaller producer?

A It would have the ability to compete with the smaller producer as well as the larger.

Q How about the smaller produder competing with Airco with BOC entrenching them?

A Well, I'm sorry, I don't get -- would you mind repeating the question?

Q What effect would it have on the smaller producer, with what you said BOC could do for Airco, certainly they are going to be taking business from somebody if they incfease their market share, wouldn't they be taking business away from the smaller people?

A In my opinion, unless -- it is rather difficult to take very much of the market share from the small people because they can compete against ou on the whole more effectively than your large competitors, primarily bedause of service.

They are very much service oriented and they can turn around very much faster.

So I would rather --my opinion would be that the primary effects would be on the large competitors rather than on the small competitors.

Q There is testimony that Alabama Oxygen can't compete with Airco or Linde.

They have a big plant, Giordano said they have a big plant sitting there and they were nothing, they coldn't compete.

Now, with the entrenchment of Airco --

MR. TOPKIS: I think Mr. Giordano's testimony was that he wouldn't recommend that somebody buy Alabama Oxygen sitting there with a 25 or 30 ton plant staring Airco's 1,000 ton plant in the fact.

The gentleman from Alabama said he is doing just fine.

MR. THURMAN: I would like to compleee a

question before I am rudely interrupted by Mr. Topkis.

JUDGE BARNES: Just phrase your questionand get a complete question.

Read the question back.

(Question read.)

A Would you mind rephrasing your question? Ididn't understand it.

Q I believe there has been testimony that a small plant cannot compete with a large plant in certain areas such as down in Albaama.

Airco has a large plant and Alabama Oxygen has a small plant.

Would you agree with that?

A Undoubtedly there must be a case some place around the world in which a small plant sitting next door to a thousand-ton plant cannot compete for the same customers with the large plant.

This, no doubt, is true.

But what you said and what Mr. Topkis has said are diametrically opposed to one another as to how Alabama Oxygen is doing."

Q Do you know how Alabana Oxygen is doing?

A No, I do not.

Q Has SRI done work previously for BOC up to this time?

A In the chemical center we have not.

Whatmight have been done by other divisions of SRI I am not competent to answer.

JUDGE BARNES: How large is this chemical center at SRI?

THE WITNESS: I have 70 some-odd people on the staff divided into 5 departments.

Our annual billing is between 3 and 3 and a half million dollars.

JUDGE BARNES: I was going to ask what percentage of the entire institute did your division account for?

THE WITNESS: Well, three and a half into 70 is 5 per cent, right.

JUDGE BARNES: The dollar billing would be a proper basis for --

THE WITNESS: It would be 5 per cent of the business.

MR. THURMAN: I only have a couple of questions left.

Q I am not sure if you testified who the new entrants were, if any.

Did you state if there were any new entrants into the indsutrial gases market in the last ten yeas?

A No.

The only question I was asked was whether an ybody withdreew from the commercial gas field.

Q Do you know if anybody went in?

A Well, to the best of my knowledge, nobody major.

There may have been one or two small companies some place that I wouldn't have any knowledge of.

Q What companies have bought marketing skills?

A Well, if I may give you an example -- Shell Chemical Company in effect bought marketing expertise at the time it got into the thermoplastics line.

Q Weren't they familiar with thermoplastics?

A Yes.

Thermoplastics constitute a very substantial proportion of the chemical industry.

Q They must have had marketing skills in that field.

A They had skills in marketing sets.

I was showing how we could -- there was only three and a half per cent of the thermosetting customers were buying thermoplastic.

MR. THURMAN: No further questions.

REDIRECT EXAMINATION

BY MR. TOPKIS:

Q Dr. Kridl, Mr. Thurman asked you about Liquid Air's purchase of American Cryogenics, and that other company they bought subsequently, Industrial Air Products.

I think you told him that according to your recollection, American Cryogenics had somewhere between 10 and 20 million of annual sales at the time and the other one had about 10 million and you said in response to a question that there is nothing comparable today --

A Except for Burdett.

Q If I were to suggest to you that American Cryogenics had 20 million dollars in annual sales and IAP also had 20 million in annual sales, I guess that would enforce the vigor ofyour statement, would it not?

A Yes.

Q You said also that if BOC bought Big Three for stock in a stock for stock swap, the effect would be to dilute BOC's earnings?

A Very significantly, yes.

Q As a matter of common industrial appraisal, that would be undesirable from BOC's standpoint, right?

A The first result would be that they would be stuck -- the stock would drop because the earnings per share would drop and therefore the first thingthat would happen is that the stockholders would be after the management and the management has a notable instinct for self-survival.

Q Suppose BOC bought Big Three stock or assets for cash.

What would the effect be on BOC's earnings?

A W-ell, two-fold.

First of all, BOC presumably not being **Arab** does not have thatkind of cash lying in the bank these days, so they wouldhave to borrow the money.

The prevalent rate in England is on the order of 11 per cent.

Consequently they would have to pay of the order of 8 to 10 million dollars a year interest on that rate, on that amount of money.

Q On what amount of money?

A On the amount they would have had to borrow.

Q Do you know what big share of Big Three they could buy for 30 million dollars?

A I would have to calculate it.

Q I will yelp you with it in just a secod.

In any event, they would have to pay an interest charge?

A Yes.

Secondly, if they then bought it for cash, all of this, under the prevailing U.S. tax laws, all of the stockholders of Big Three will immediately be liable to income tax on their capital gains.

They would have to pay substantial premiums over the stock ifthey were to buy it for cash.

The third consequence would be that the British Oxygen Company would get a lot of what is known as blue sky on their balance sheet and no reputable accounting firm would let blue skies stay on the balance sheet for too long.

This has to be written off with post tax money and again that would affect earnings.

JUDGE BARNES: Blue sky is good will?

THE WITNESS: That is correct, sir.

Q So for those reasons a cash acquisition would have certain disadvantages?

A If it could be done, a cash acquisition would be A, more expensive, and B, would have bad financial consequences.

MR. TOPKIS: Your Honor, we have done the calculation. It is based on material in the record and I would like to draw your Honor's attention toit.

JUDGE BARNES: This is something that should be put in findings or something of that sort.

MR. TOPIKS: There has been the suggestion that for 80 million you could buy Big Three.

For $80 million assuming the same write-up made for Airco, you could buy 18 per cent of Big Three if it were sold.

I would like your Honor to know that right now rather than wait for findings.

MR. THURMAN: It is meaningless.

He should be forced to brief.

JUDGE BARNES: He will have to.

I will just listen to it but it is not evidence.

MR. TOPKIS: Of course not.

Q Just to clear up one thing:

When you were testifying about delivery of industrial gases, when an air separation plant delivers oxygen, to a steel company over the fence from immediately next door, is that typically gas or liquid?

A Typically gas.

Q And are you familiar with a piece of equipment called a liquifier?

A Yes.

Q What does it do?

A A standard liquffier would convert the gas into liquid.

Q Now, you said that inevitably in generating air separation gases you turn them over into liquid?

A At one point or another.

They have to be in a liquid phase because you can't separate gases except by difusion.

Q But you don't do that with a liquifier, do you?

A Well, as I understand, the liquids -- there are two **liquids in the fractionating column and then you take one** part -- it all depends which one of the gases you are after.

If you want to produde primarily oxygen, then your oxygen is quite pure and your nitrogen is contaminated.

If you want to produde nitrogen, your nitrogen is quite pure and your oxygen is contaminated.

But in principle, by the laws of chemical **separation,** they both have to be a liquid simultaneously at some stage or else you couldn't separate them.

MR. THURMAN: The last qustion was extremely leading.

I guess I am slow in my objections.

JUDGE BARNES: What is a liquifier, is that where you store the liquid?

THE WITNESS: To me a liquifier means a piece of equipment which would take a vapor and liquify it.

This is done by compressing the vapor and partially expending it, thereby cooling it.

Q There has been testimony by Mr. Giordano that typically when you are selling to a steel company, you pipe the oxygen out in -- in gaseous form and when you are going tosell to a merchant account, you liquify the gas by means of a liquifier and then sell that liquid.

Does that conform to your understanding?

A Yes.

MR. TOPKIS: I have no further questions.

RECROSS-EXAMINATION

BY MR. THURMAN:

Q Do you know how BOC acquired Airco?

A I believe there was stock tender offer made.

Q They borrowed that money, didn't they?

A I believe so.

Q Do you know what the market value of the stock was when they tendered the offer?

A The only thing I know for sure is that it was higher than it is now.

It was on the order of, I believe, $20 a share.

MR. TOPKIS: There is no reason to clutter the record with erroneous statements, your Honor.

It was not around $20 a share. It was the tender price.

THE WITNESS: I'm sorry, I stand corrected.

Q I am a little confused.

There was quite a bit of testimony on the unit value dropping but if a unit value dropping has importance, why did BOC want Airco?

A I believe that officers of BOC testified here, and I am sure they are a much better source of information than I would be.

I would assume to them it represented an attractive investment at the low **stock price that the** Airco stock was selling at at that time.

The Airco stock, I believe is fair to say that it is selling at a lowerrpice to earnings ratio than it has over the last 10 years.

Q I believe you said it wasn't an investment.

You could invest your money some place else better --

A May I restate what I said?

You asked me what my opinion was on their thinking and I said I imagine they looked upon at is an i-vestment.

I did not say that I would recommend it as an investment.

MR. THURMAN: We have no further questions.

JUDGE BARNES: Let me ask you a couple of questions, Doctor.

BY THE HEARING OFFICER:

Q As I understand it, BOC paid $80 million for an interest in Airco.

The offer was $20 a share and I am not certain what the market price of Airco was at that time.

I assume it was $15 a share.

MR. TOPKIS: Your Honor, it was in the neighborhood of 12 and a fraction.

Q I believe in reading the Wall Street Journal that it pays a dollar a share.

MR. WOLLEN: Your Honor, it is 80 cents most recently.

Q In your opinion was that a good investment for BOC?

A Well, from purely -- regarded purely as a monetary investment, certainly it was not.

Q If they had to borrow money, certainly they are sustaining a loss every day, are they not?

A I would say that is true, of course.

Q Well, what then is your opinion for purpose in investing this money in Airco?

A Again, the only thing I would judge that they are having convinced themselves that probagly no toehold or Greenfield acquisition was possible.

It was mostlikely that they went after an acquisition or a partial acquistion of a major producer and this was an investment, in effect, in the long run.

Q What can they do -- what percentage of the stock did they buy?

MR. TOPKIS: 35, your Honor.

Q What did they do with 35 per cent of Airco?

A In practical terms, owning 35 per cent ofthe company, one controls the company.

I don't know anything about the distribution of the other stock of Airco.

Q At $20 a share, what is the rate of return on 80cents a share?

A 4 per cent.

Q And you said money in London was at 11 per cent?

A That is the prime rate.

Now it is 11 and a half or 11. I don't know how much they borrowed or how much came in from internal funds.

Q They can loan the 80 million now?

A They can do better than that.

Prime rate mortgages go at 13.

Q Are there any areas in the U.S. industrial gas market that you can suggest as areas for potential entry by a company?

A Do you mean de novo, toehole or by acquisition?

Q Potential entry.

A I am not aware of any one particular area which would represent any great opportunity -- much of an opportunity for anyone to enter.

JUDGE BARNES: Anything further for today?

MR. TOPKIS: Your Honor, we are entitled to know and should be told if complaint counsel considers that Big Three or Union Carbide was a toehold which we should have made in preference to Airco, an acquisition which would have had a lesser competitive impact.

If that is their argument, which does not appear in the pleadings, I would like to know.

I would challenge their right to make that assertion on a variety of grounds but I think we ought to have it spelled out right now.

JUDGE BARNES: Can you enlighten Mr. Topkis?

MR. THURMAN: I will enlighten him as far as I will go.

I will tell him and tell your Honor that our position is that Airco is not a toehold, that's as far as our burden goes.

You can't violate the law otherwise.

I wouldn't designate who was a toehold or who wasn't.

That is for the Judge or the Commission to decide.

JUDGE BARNES: Is it part of your burden to establish that there were toehold companies available?

MR. THURMAN: No.

Our burden is to show that Airco was not a toehold.

There are cases saying that complaint counsel didn't show that toeholds were available and there were smaller companies out there.

We have shown that there are smaller companies there.

JUDGE BARNES: Then you do not intend to point out to Mr. Topkis who the toehold companies were?

MR. THURMAN: That is not our burden.

Certainly there are toeholds. There are smaller companies out there.

This acquisition violates the law. They acquired a substantial company, one of the leaders.

JUDGE BARNES: Let's assume that I were to find there were no toehold companies available.

What happens then?

MR. THURMAN: I say there is no established case law on that to my knowledge and I believe that to be a fact, there is no law saying that you can acquire the dominant firm if there are no toeholds available.

My theory is that they can't come in with a dominant firm.

If they can't get a toehold, they must come i de novo or sit at the edge of the market and exert some pro -competitive effects.

MR. TOPKIS: I am not getting much enlightenment.

Am I supposed to meet a contention that Big Three was a toehold and Airco was not and that Chemetron was and that Airco was not?

JUDGE BARNES: That is the question and I am not -- what is your answer on that?

MR. THURMAN: I am not going to make the determination that Big Three was toehold or not.

You have to be -- you have to go by established case law and what percentages are not a toehold.

MR. TOPKIS: It is established in the record. They have 50 per cent of the market in the Houston area.

MR. THURMAN: But that is not the market in this case.

MR. TOPKIS: That is true but if complaint counsel were willing to tell me that if we bought Big Three we wouldn't be sued for violating the anti-trust laws, I would be startled and we would have an entirely different lawsuit.

MR. THURMAN: I didn'tsay that.

MR. TOPKIS: I didn'tthink you would.

JUDGE BARNES: I think you will have to brief that point.

MR. TOPKIS: The point that I called to your attention, your Honor, is squarely on this subject.

JUDGE BARNES: I will try to read it tonight if there are no good movies on television.

MR. TOPKIS: It is Judge Friendly at his very best.

JUDGEBARNES: I know the district court here. He was one of my opponents a few years ago.

MR. THURMAN: May I have a copy?

MR. TOPKIS: You ahve one already. We gave you one this morning.

JUDGE BARNES: We will adjourn now until 9:30 tomorrow morning.

(Whereupon, at 5:00 p.m. the hearing was adjourned to June 13, 1974, at 9:30 a.m.)

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* * *

BEFORE THE FEDERAL TRADE COMMISSION

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In the Matter of:

BRITISH OXYGEN COMPANY, LTD., BOC FINANCIAL CORPORATION, BOC HOLDINGS, LTD., BRITISH OXYGEN INVESTMENTS, LTD., AIRCO, INC.

Docket No.
8955

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Hearing Room E
26 Federal Plaza
New York, New York
Thursday, June 13, 1974

Met, pursuant to notice, at 9:30 a.m.

BEFORE: Ernest G. Barnes, Administrative Law Judge

APPEARANCES:

K. Keith Thurman, Gordon Youngwood, Don Purcell, Daryl Nickel, Rhett Krulia and John Hoagland, on behalf of the Federal Trade Commission

Jay H. Topkis, Lewis A. Kaplan and Moses Silverman, Paul, Weiss, Rifkind, Wharton and Garrison 345 Park Avenue, New York, New York, 10022, on behalf of respondent, British Oxygen Company, Ltd.

Foster Wollen, R. Bruce Mac Whorter and Danforth Newcomb, Shearman and Sterling, 53 Wall Street, New York, New York, 10005, on behalf of respondent AIRCO, INC.

Robert L. Doan, assistant general counsel, Union Carbide Corporation, 270 Park Avenue, New York, N.Y.
Alexander W. Sierok, Wald, Harkrader and Ross, 1829 19th Street, N.W., Washington, D.C., 20938, on behalf of Union Carbide Corporation

JUDGE BARNES: Ready?

MR. TOPKIS: Yes, your Honor. Before we call our first witness of the day, I would like to offer a few exhibits.

The first, I believe, that your Honor may take judicial notice of, based on the New York Times of a stock quotation, it is the closing quotation on December 10, 1973, the day of the BOC tender offer for Airco stock of the stock of Big Three which closed on that date at 43-1/2, and I will show it to my friend so that he may verify it. It was then reported in the Time to be selling at a price/earning ratio of 17.

Airco on that day didn't trade, I think, because of the fact that the tender offer was outstanding.

Now, your Honor, I would advise the Court that we have decided not to call Robert Nathan and Robert Lienhardt. Our next witness in consequence will be Mr. Cosgrove, and there is a possibility on which I would like leave to advise the Court later in the day that we would also drop Mr. Lake and go directly to Mr. Laister.

JUDGE BARNES: What about Mr. Dillon?

MR. TOPKIS: Mr. Dillon we will have as our last witness or more accurately, Airco's.

MR. WOLLEN: That is correct.

MR. TOPKIS: Now I would like to offer some exhibits, as I say, and the first is a batch of photographs of the buildings of Harris Lake and Fraser Swetman. Copies of those photographs of course were turned over to our friends many, many, wekks ago, and we have also furnished identification of the photographs.

Your Honor, our exhibit list, Exhibit 233-A, 233-B, and 233-C offers descriptions of BOC Exhibits 1-20, the photographs.

JUDGE BARNES: Have we received 233 in evidence yet?

MR. TOPKIS: It has not, and so I would offer it at this time, if I may.

JUDGE BARNES: BOC Exhibit 233-A through S is a list of BOC Respondent Exhibits 1 through 203, and it contains a brief description of each such exhibit and I will receive it in evidence for the purposes of identifying the exhibits that BOC is entering into the record.

MR. TOPKIS: Our pagination might have been a little confused. The highest number we have is BOC 232, which appears on the last page.

JUDGE BARNES: All right.

(BOC RX 233-A through S received in evidence.)

MR. TOPKIS: I am not sure what the record reveals on CX Exhibit 301, the five-year projection. I believe commission counsel offered it and I believe we advised the Court we had no objection provided it was received in camera with the longest possible in camera protection; since it is five years, I would like a five-year protection.

JUDGE BARNES: My records say it was deferred, and I don't know why it was deferred.

MR. THURMAN: My recollection is that it was defereed because at that time Mr. Topkis wanted tocheck the blinding that we had done. He said he had no objection but I think we were off the record at the time.

MR. TOPKIS: That's right. I had thought it had been received but whan we checked the record we discoveeed that it was not.

JUDGE BARNES: Do you want to offer it now?

MR. THURMAN: Now or sometime before we close this record. I have two other exhibits also.

MR. TOPKIS: May 301 be received?

JUDGE BARNES: I will receive Commission Exhibit 301-A through Q in evidence in camera.

(CX 301-A through Q received in evidence in camera.)

MR. THURMAN: Shall I offer my other two exhibits now or shall I wait for Mr. Topkis to finish?

JUDGE BARNES: It doesn't matter.

MR. TOPKIS: Your Honor, I would offer first BOC Exhibits RX 1 through RX 20, which are variou photographs identified on 233 of the Harris Lake and Fraser Swetmann operations. I would tell your Honor that they were taken by a professional photographer whome we commissioned to go to those places to make those photographs. He is available but I hardly think we need bother to pay him a day's wages to come down here.

JUDGE BARNES: Does your description tell what these individual photographs are?

MR. TOPKIS: Yes, your Honor. Storeroom, office, and so on.

JUDGE BARNES: Any objection?

MR. THURMAN: I suppose first we would like to know the purpose of it.

MR. TOPKIS: To show the magnitude of these operations.

M MR. THURMAN: This is a new experience to me, not being a criminal prosecutor or criminal defeense lawyer, to introduce photographs to measure the size of the market or share of the market. There should be no qestion about census reliability if photographs of some buildings can be used to show what share of the market a particular company has.

MR. TOPKIS: For the first time in my life I rely upon Confucius who taught us that one picture is worth --

JUDGE BARNES: Confucius say that these pictures are one source of evidence of the size of the company.

MR. THURMAN: I thought sales or shipments measured the size of the market, not whether a compayy might be able to do $10-million out of a room this size.

MR. TOPKIS: Harry Winston does.

MR. THURMAN: Mr. Topkis always wants to make the record complete and I think to make the record complete you wold have to show pictures of products. If you are going to measure something you have to have something to measure it with.

JUDGE BARNES: For rebuttal, take a cameraman out to Ohio Production --

MR. THURMAN: We don't have the money to hire one.

MR. TOPKIS: I think there are some pictures in the annual report.

MR. THURMAN: It is a new experience for me.

JUDGE BARNES: We learn something new every day and I will receive BOC RX 1 through 20 in evidence.

(BOC RX 1 through 20 received in evidence.)

MR. THURMAN: They have no date. I assume they are up to date facilities?

MR. TOPKIS: It wuld be helpful to know what date those photographs were taken.

If I may confer with Mr. Kaplan --

MR. KAPLAN: I think they were taken around the 28th or 29th of March, your Honor, after the complaint issued in this case.

MR. THURMAN: I note a very attractive picture here of Harris Lake's building.

MR. KAPLAN: You may want to buy it.

JUDGE BARNES: Off therecord.

(Discussion off the record.)

JUDGE BARNES: Back on the record.

Any other exhibits?

MR. TOPKIS: BOC RX 61 is a letter from Mr. Perham to Mr. Loveman, one of the sequence of those letters. I think others have been admitted. In the interests of completeness, we wanted to get that one in. I think it is stipulated that it was sent by the apparent sender and received by the apparent addressee.

JUDGE BARNES: Any objections, Mr. Thurman?

MR. THURMAN: May I have just a second, your Honor?

Your Honor, we are not objecting to the authenticitiy of it. I am relatively sure, if Mr. Topkis said this letter was sent from Perham to Loveman, I am sure it was. We are not objecting to that. We are objecting to this going in for the truth of the matter without a chance to cross examine the witness.

MR. TOPKIS: I don't really care, I just want the fact that the letter was sent. I don't think there is any critical statement of fact there whose truth I am relying on.

JUDGE BARNES: I will receive BOC RX 61 in evidence.

(BOC RX 61 received in evidence.)

MR. TOPKIS: Now, your Honor, I would like to correct a statement I made yesterday. Your Honor will perhaps recall that I said on the eve of the tender, Airco stock was selling at 12 and a fraction. I was in error and I apologize to the Court. The reason was that I had in mind the amount that the stock was selling for at the time of the Curtis-Wright tender, a week before ours. The stock was at 18. It went up to a point where at CX 125 in evidence, our tender offer, the stock was selling at 15 and 8 on December 7, 1973, the last full day of trading before our announcement of the tender offer. Before the Curtis-Wright announcement it was selling at 12-7/8 and that was the figure I had in mind, the Curtis-Wright figure.

We would now like to offer, your Honor, Exhibit 72 which is the 1967 summary --census of manufacturers issued January 1971, and I am sure Mr. Thurman will want to know why I am offering this and the answer is that it shows the degree of concentration asserted by the census in this industry.

JUDGE BARNES: Industrial gases?

MR. TOPKIS: Yes, sir.

JUDGE BARNES: 72-E?

MR. TOPKIS: Right.

JUDGE BARNES: Any objection, Mr. Thurman?

MR. THURMAN: Well, I am not sure I have a right to object. I think this is a matter, your Honor can take judicial notice of. Our only objection would be, I believe it is admissible in evidence as far as judicial notice. Our only objection would be that it goes up to 1967. I don't have to call your Honor's attention to the fact that this is 1974 and the market certainly -- the relevant and important time is the market concentration at the time of the acquisition, not at the time of 1973, '65, or '67.

MR. TOPKIS: What is the significance, of course, is the drop off in concentration.

JUDGE BARNES: It shows a decline over a period of years.

I will receive BOC RX 72-A through H on the basis of judicial notice. I will receive this in the record as an exhibit. I will take judicial notice of it.

(BOC RX 72-A through H received in evidence.)

MR. THURMAN: Maybe the top four picked back up --

JUDGE BARNES: It will give us a complete record.

MR. TOPKIS: Now, your Honor, I would like to offer simultaneously, so that your Honor may better understand them, BOX RX 184 and 185, which reveal the clearance given by the British authorities to BOC acquisition of an interest in Airco under British antitrust laws. I don't mean to suggest that it is binding, of course, but I thought that it might be of possible significance.

JUDGE BARNES: Any objection?

MR. THURMAN: This is the first case -- I have never had an exhibit rejected but if anyone should be, it should be this. If they are not going to look into it at that time in England, there is a press notice and a letter to Mr. Leslie saying that the Commission is not goig to look into this monopoly. It has nothing to do with the United States antitrust laws and would have no relevancy whatever to whether this case is violative of the United States antitrust laws or not. It certainly is not relevant and should not be admitted in this case.

JUDGE BARNES: I am certain that if BOC had not gotten approval that you would have been offering that.

MR. THURMAN: I certainly would not have, but it is something I would have offered -- we have a procedure where they can come to the Federal Trade Commission and ask what is your opinion on whether this acquisition would be challenged or not, and that would be relevant. We would introduce that but not somethkng from a foreign country. We certainly wouldn't say -- you know, the laws are completely different in the U.K. and they have been allowed to have a monopoly in the U.K. and certainly the wouldn't be allowed to have a monopoly in this country.

This does not complete the record. In our opinion there is nothing in the record to show what criteria they used to say we are not going to challenge this. I am certainly not familiar with the antitrust laws of the U.K. Maybe someone else in this room is. This record is not complete with that. It gives a distorted picture, maybe, if it is relevant. I don't think it is relevant to start with, but if it is, it is not complete to show what criteria they use to decline to look into a merger at that time.

Like I say, maybe I am repeating, but, if BOC wanted to know whether this would be challenged or not in this country, they should have asked the Federal Trade Commission, a procedure that is available to them.

JUDGE BARNES: I think Mr. Topkis stated when he offered these that it wasn't necessarily binding, but it might have some relevance.

I will receive BOC RX 184 and 185 in evidence.

(BOC RX 184 and 185 received in evidence.)

MR. THURMAN: Your Honor, I think it is in the record with what control is in Britain, in the United Kingdom, and what it is in this country, through testimony. When they are talking about control, they are talking about 51 percent.

JUDGE BARNES: These exhibits?

MR. THURMAN: Yes, in England. That is probably why, I am sure that is why they weren't going to look into this. In fact the document says that, I believe.

JUDGE BARNES: It does, the last paragraph.

MR. TOPKIS: Now, your Honor, we would like to offer BOC 234, which is a copy of a letter from BIC's Mr. Harris to Mr. Alan Perham containing the directions which Mr. Perham was proceeding under when he went to see Gardner Cryogenics.

JUDGE BARNES: This is under the date of May 18, 1970?

MR. TOPKIS: That is correct, your Honor. It is not terribly clear. I'm sorry.

JUDGE BARNES: Whose handwriting is this on the exhibit?

MR. TOPKIS: We have been told that's Mr. Perham's, your Honor.

JUDGE BARNES: Any objection?

MR. THURMAN: I have several objections and the first one is relevancy. How is this relevant to this case?

MR. TOPKIS: Complainant counsel throught it appropriate to put in testimony about the visit that was made pursuant to the instructions in this letter, and I would think the instructions are at least as relevant as the exhibit.

JUDGE BARNES: Mr. Harris's position was what?

MR. TOPKIS: He was on the planning secretariat of BOC at that time which is charged with planning.

JUDGE BARNES: It seems to me we had a lot of testimony about Gardner Cryogenics.

MR. THURMAN: We certainly did. We thought it was interesting that they wre interested in acquiring Gardner Cryogenics in the U.S.A. It has nothing to do with what we are talking about. It is hearsay. If this is accepted in the record, then there is no point in ever calling a witness or the exemption when it comes from respondent's files is of no moment because, apparently, he just offers something and it gets in the record through no rules of evidence or anything, if you take this and admit this into evidence, we will just have an open record and say everything you want to put in, put it in, heassay and everything else, relevancy. Certainly I don't see the relevancy, it is hearsay. I am told that --

MR. TOPKIS: I am not offering it for the truth of any statement in the record. I just want it received for the fact that Mr. Perham was going to Gardner Cryogenics and what he was supposed to find out there.

JUDGE BARNES: I will receive BOC RX 234.

(BOC RX 234 received in evidence.)

MR. THURMAN: They were calling Perham as a witness and now they put these documents in. I don't see how this is probative evidence. If it is not in there for the truth of it, what purpose is it in there for? That is another thing, I have never put anything in the record that wasn't there for the truth of it, in any case that I have ever tried.

JUDGE BARNES: You are to be congratulated.

MR. THURMAN: I am sure they are going to quote in their findings and in their appeal -- appeal or answering appeal from that study and they are going to cite what they read into the record. They are going to cite that as being in for the truth of the matter. We are cluttering the record up with a lot of material that is not in for the truth of the matter but it is going to be cited later on because they will say it is in the record and the reviewer of the record will not know whether it is in for the truth of the matter.

JUDGE BARNES: You will have a chance to file a reply brief.

MR. TOPKIS: The next one I would offer is BOC RX 200, which is the document that perhaps your Honor will recall was consulted by Dr. Hedley White when he was testifying. Needless to say, again, I am not offering this document for the tmuth of its contents.

JUDGE BARNES: It is a document he turned over to you when he was on the witness stand?

MR. TOPKIS: That is quite right, your Honor.

Do you want a copy?

MR. THURMAN: We have no objection to this even going in for the truth of the matter.

JUDGE BARNES: I will receive BOC RX 200 in evidence.

(BOC RX 200 received in evidence.)

MR. TOPKIS: It is a wise man who loves his own child. I think I have twisted that a little bit.

Your Honor, I would offer the report that was made on the visit to Gardner Cryogenics by Mr. Perham and Mr. Moeller, transmitted to Mr. Smith and Dr. Moeller, I think it is. It is BOC RX 206.

JUDGE BARNES: Do you have the same objections to this that you bad to the previous letter, Mr. Thurman?

MR. THURMAN: I won't be deterred by being overruled. We will certainly object to it as hearsay. Probably relevancy, also.

JUDGE BARNES: I believe you are going to call Mr. Stanton as a witness and for some reason you never got to him.

MR. TOPKIS: As a matter of fact, this was originall Commission Exhibit 241, your Honor.

MR. THURMAN: I believe this exhibit, and this is another procedure I am representing that you cannot just introduce sections that you want to put in. We offered this for the fourth paragraph, and at that time we were told -- the ruling was, I believe, that you can't put that one paragraph in. Either put the whole thing in or nothing, and we said "nothing."

Our position is that the third paragraph is the only relevant --

JUDGE BARNES: You said --

MR. THURMAN: The fourth paragraph, I'm sorry. The fourth paragraph is the only thing relevant to this case and certainly that paragraph should be admitted in evidence, the fourth paragraph only.

JUDGE BARNES: I will receive BOC RX 206 in evidence.

(BOC RX 206 received in evidence.)

MR. TOPKIS: Now, your Honor, I will offer a document whose authenticity I am sure will be acknowledged by our friends, because it is BOC RX 207, a itter to John R. Hoagland, Esq., Bureau of Competition, Federal Trade Commission, from Benson Carlin, President, O.E.M. Medical, Inc.

Mr. Carlin was also once on the commission's witness list.

JUDGE BARNES: We did have one witness from OEM Medical; is that correct?

MR. TOPKIS: Your Honor is correct. It was Mr. Fagan, I believe.

MR. THURMAN: I am learning, maybe. Now, anything written to an attorney of the Federal Trade Commission is admissible.

MR. TOPKIS: It also has the guarantee of authenticity that it came from Commission files.

JUDGE BARNES: Mr. Hoagland, did you receive this letter?

MR. HOAGLAND: I certainly did, your Honor.

MR. THURMAN: May I add something to correct Mr. Topkis? This witness, and Mr. Topkis was aware of this, that this witness was listed for sales only.

MR. TOPKIS: I'm sorry. If I was in error, I apologize.

MR. THURMAN: Certainly we can't be held to what somebody writes --

JUDGE BARNES: This letter was written after the complaint issued and of course it is a third party, it is not a BOC document but I will receive it. BOC RX 207.

(BOC RX 207 received in evidence.)

MR. TOPKIS: Now, your Honor, I think the gentleman from

Price-Waterhouse is in the back of the room and he, not being a party here, I think perhaps we ought to defer to him and find out what he has to say right now.

MR. THURMAN: I would like a recess first. I want to talk to our accountant. I just got a call from him. I tried to get hold of him last night.

JUDGE BARNES: All right. Let's take a ten-minute recess and perhaps we can talk with Mr. Foster off the record before deciding anything.

MR. TOPKIS: That would be fine, your Honor.

(Recess.)

JUDGE BARNES: On the record.

MR. TOPKIS: Your Honor, we would now like to call Mr. Cosgrove and Mr. Kaplan will examine him.

JUDGE BARNES: Before we do that, I have a question on Exhibit 301-B. You have a figure that says America, I assume that includes Canada; is that right?

MR. TOPKIS: It does, your Honor. I am not surethat it doesn't include Mexico as well. I will bring that out. Mr. Laisten will be testifying and I will ask him about it.

JUDGE BARNES: All right. We will have the witness now.

RAY D. COSGROVE

called as a witness by respondent, was duly sworn by Judge Barnes and testified as follows:

DIRECT EXAMINATION

BY MR. KAPLAN:

Q Mr. Cosgrove, you are employed by Airco?

A I am employed by Ohio Medical Products Division of Airco.

Q What is your position?

A Executive vice president.

Q How long have you been with Airco?

A 23 years.

Q Has all of that been with the Ohio Medical Products Division?

A It has.

Q You received a bachelor's degree in business administration from the University of Wisconsin; is that right?

A Yes.

Q 1950?

A Yes.

Q Thereafter you went to work for Remington Rand?

A That is correct.

Q What was your position with them?

A Sales trainee.

Q Subsequent to your employment with Remington Rand then you joined Ohio; is that correct?

A Yes.

Q Will you trace your employment history with Ohio, the positions you have held and your responsibilities?

A I began with Ohio as administrative assistant to the vice president of manufacturing. Then for a very short time I was assistant to and secretary to the president of the division, followed by a period as a sales rep for the company. Returned to the headquarters as an assistant product marketing manager. Then I was a product marketing manager, manager of market planning, general marketing manager, vice president of marketing, and currently my job is executive vice president.

Q Now, Mr. Cosgrove, I believe Airco's annual report indicates that Ohio had $53-million worth or sales last year; is that about correct?

A That is correct.

Q Do you know approximately how much of that was in the United States?

A Approximately 47 million.

Q Now, what --

MR. THURMAN: Your Honor, before he goes on, I would like him to stop leading the witness.

JUDGE BARNE : Yes, these questions are very leading.

MR. KAPLAN: Your Honor, I thought that bringing out a figure in the annual report was something we could save a little time on but I would be happy to do it the long way.

JUDGE BARNES: Mr. Thurman apparently has lots of time.

Q What kinds of products does Ohio sell, in broad terms?

A In broad tersm, we sell anesthesia equipment and related products, repiratory products, primary pipeline equipment both primary, secondary and what we call electrosystems walls or multi walls. Equipment that is used in the care of the neonatal infant, medical gases, therapy oxygen, and anesthetic agents. A pottion of our gases are sold for industrial uses as well as some of our equipment is sold in the industrial safety field.

Q Now, Mr. Cosgrove, I would like to discuss for a while with you some of the products that have been involved in this case in one way or another, and to haveyou describe for the Court what the variooss products are and to give the Court some other information about them.

Does Ohio make anesthesia machines?

A Yes, they do.

MR. KAPLAN: Now,your Honor, I believe this afternoon or as soon as possible, the Commission will offer the full Ohio catalog in evidence as an effort to work out an agreement as to what the appropriate excerpts will be has not really come to fruition and we have no objection to that. So during the course of Mr. Cosgrove's examination I would like to refer to this catalog and I am sure we can agree by stipulation, if necessary, what pages have been referred to.

Q Mr. Cosgrove --

MR. THURMAN: Your Honor, we have no objection, of course, to him referring to this catalog, but we think it should be in evidence first. We would certainly offer this catalog at this time. We --

JUDGE BARNES: I think we ought to make this a physical exhibit so the pages would not have to be numbered.

MR. THURMAN: We heard your Honor's instructions, we took out the pages that pertained to this cae and we marked them. Now we understand that I believe Airco's counsel prefers the whole catalog?

MR. WOLLEN: We said the pages you took out were not in order, missing some pages, had duplications of some pages and we offered to put them in order and supply the missing pages. In lieu of that your people suggested we use the whole catalog which I don't object to.

MR. THURMAN: We just as sson g o back to the whole catalog. So, therefore, we would offer Commission's physical Exhibit 331 for identification to be received in evidence as Commission's Physical Exhibit 331.

JUDGE BARNES: Give it a number like A, Physical Exhibit A, Commission's Physical Exhibit A, the entire Ohio Medical Products Catalog, since the pages are not numbered, describe them.

MR. KAPLAN: I would prefer to work with the copy that would actually be a part of the record physically. If complainant counsel is going to offer --

MR. THURMAN: We have no objection to that except we havetaken those pagesout and they are not in yet.

MR. KAPLAN: We do the best we can. We will let you have -- we will work with this one.

Q Mr. Cosgrove, I am going to show you a brochure that is contained in this catalog headed Heidbrink 3000. Is this an anesthesia machine sold by Airco?

A It is.

Q Using that photograph appearen on that page, will you explain to his Honor the various components of the machine and the functions it performs?

A First of all, I think it would be well to point out that there are several essential elements necessary that have to be present in order to administer an inhalation andsthetic to a patient. One, of course, is the presence of oxygen for the obvious reason that it is life sustaining. The oxygen can also fulfill another essential element, it can act as the carrier gas for the anesthetic that is going to be introduced into the system.

Thirdly, you can have an addtional gas which will be a supplemental or in another way of putting it, will enhance the anesthetic qualities of the anesthetic that is finally administered, and then finally, you have to obviously have an anesthetic agent and today the most popular anesthetic agents are what we call volatile inhalation anesthetic agents, and so this is what this particular apparatus is designed to accommodate.

What it is is, it is simply a group of subsystems which will contain these various elements, regulate the flow of these gases and agents through a series of needle valves to finally produce a predicted concentration of anesthetic and life supporting oxygen, which is -- and the level of which is dictated by the prodedure, the surgical procedure in question and the duration of that procedure.

So, with that little bit of background what we have here is a machine, essentially made up obviously of a cabinet work and a cabinet top which permits the anesthesiologist to store his various accessory type agents, his laryngoscope and various other materials. The tabletop permits a working surface for him to prepare various drugs, tubes, masks and other accessories. The whole cabinet assembly is mounted on casters so the apparatus can be moved in and about the surgical suite, depending upon the location of the table.

The next important element is the so-called yoke arrangement, and there is a similar yoke arrangement on this side of the machine. You are looking at the oxygen cylinders, the life support gas that is always present. Inside the cabinet itself is a series of regulators which reduce the pressure of the high-pressure oxygen down to the working pressure of the machine, which is 50 pounds per square inch. I might point out that the regulators that are used in the anesthesia apparatus are pretty much the standard type of regulator which you might find where welding and metal cutting and so forth is done. It is a variation on that type of a regulation device.

From there, the oxygen or the supplemental gas which would be located on the other side are fed, after being reduced in pressure to a series of needle vales mounted on the front of this console and this permits you to flow with great accuracy, an amount of gas through the flowmeters where the reading of the gas being flowed is apparent at all times to the anesthesiologist.

The flowmeters involved, while they are built specifically for the anesthesia apparatus, they are simply an offshoot of the standard gas metering devises used in industrial applications as well. The tube is designed slightly differerently because of the smaller flows that are involved, but it is essentially the same type of tube that is used for industrial gas flow management.

From there, you meter a portion of the gas to what we call the vaporizing unit, and that is a container mounted at the top of the unit which will hold the actual inhalation anesthetic agent itself, and in many cases it is a form of ether. Therefore, under certain conditions, it is volatile, and you can volatilize the ether either by the addition of heat or by allowing the agent itself to travel up a wicking type device and get greater exposure of it ans pass the gas over the wicking device.

The gas that then has flowed through the vaporizer is now ladened with the anesthetic agent, but again, at a prescribed concentration. It meets the remainder of the oxygen flow and joins it again, plus the addition of the supplemental gas which I mentioned which is normally nitrous oxide, which acts, as I say, to enhance the action of the anesthetic. They are all combined together and finally are delivered to the patient.

The patient is going to be receiving the anesthetic through this series of tubes and finally through a mask or at the choice of the anesthesiologist, it could be through an endotrachial tube which is entered down the trachea.

As the patient inhales the mixture which is now oxygen, an anesthetic and nitrous oxide in most cases, a certain amount of the anesthetic is absorbed into the blood stream and that is what puts him to sleep and renders him unconscious and insensible to pain. A certain amount of the oxygen is taken into the system to support life and the nitrous, of course, is supplementing. When the patient exhales, he is exhaling, again, a part of the oxygen, a part of the nitrous oxide, a part of the absorbed anesthetic, and another ingredient, carbon dioxide, which is a by-product of metabolism. That exhaled stream goes through what we call an absorber which has a chemical absorbant material in it which is selectively -- it selectively absorbs the CO_2 from the gas stream and the balance of it which is the anesthetic, nitrous oxide and the oxygen, is reintroduced to the patient and that, in a very simply way, explains the fundamental operation of an anesthetic machine.

Q Thank you, Mr. Cosgrove.

Now, would you point out to his Honor where the vaporizer is located on this DM 5000 machine?

A This particular machine is electrically operated. I mentioned before that it is possible to vaporize a volatile anesthetic in various ways. This particular machine has an electrically operated vaporizer, a series of them, mounted on the back behind the flowmeter scales and in this particular case you can see there are probably three vaporizers for the three different types of agents. Normally only one of the three is used at any one time and there is actually an interlocking device which prevents you from using more than any one agent at one time.

JUDGE BARNES: How long have the machines been in use, of that nature?

THE WITNESS: Of that particular nature, using electrical vaporization?

JUDGE BARNES: Well, any machine mounted on wheels like that?

THE WITNESS: I would say 75 years.

JUDGE BARNES: That long?

THE WITNESS: Yes.

Originally the anesthetic of choice in this country was diethyl either and as the field progressed, more research undertaken, they came up with more potent, better anesthetic agents, and thus the machines have advanced, too.

JUDGE BARNES: How long have they been using a combination of oxygen?

THE WITNESS: Always. You always have to have the presence of oxygen because that is what sustains life. You have to have at least 20 precent present at all times because that is what is present in the room air that you are breathing, hopefully, and without 20 percent, you will be rendered unconscious for other than anesthetic reasons.

JUDGE BARNES: I mean in combination with the anesthesia, how long --

THE WITNESS: Years ago, they could just administer ethyl ether by dropping it on a gauze-covered cone. It was a crude way but it was still anesthesia. They would also hopefully have oxygen available. This goes back 75 years.

Q Where the diethyl ether was administered on a cone, where did the patient get oxygen for support?

A In the early stages he probably didn't. Whatever leaked around the cone they felt was sufficient to meet the patient's metabolic requirements.

Q That is room air?

A Yes.

JUDGE BARNES: His own air?

THE WITNESS: That is right.

Q I would like to go through the components of this machine a piece at a time and talk about how they are made.

Ohio assembles the D, 5000 machine; is that right?

A Yes.

Q Now, you have mentioned, first of all, the cabinet work, where does Ohio get the cabinet work that goes into that machine?

A The cabniet work is simply a straighforward sheet-metal operation which we buy flat stainless steel or vinyl-clad steel in some cases. We punch the holes in it, bend it and then finally fabricate it in our plant.

Q Is there any special technology in volved in doing the sheet metal work involved in that anesthesia machine that would prevent somebody subcontracting it, for example, to a machine shop?

A No. As a matter of fact there have been instances where we have actuall subcontracted portions of this particular machine for various reasons.

Q Are there any patents on the stainless steel or the steel work in the machine that would prevent someone from manufacturing the cabinet work?

A No.

Q Now, you mentioned, also, the yokes. Now, where does Ohio get the yokes that are a part of this anesthesia machine?

A The yokes are a forging, a brass forging which we buy from an outside source in the raw state, unpolished. We bring them into our plant,perform the machining operations, and finally polish and plate them.

Q The equipment you use --

MR. KAPLAN: Strike that.

Q Describe the equipment that you use in machining the yokes after you buy the components.

A It is the standard drills, a milling operation is perfomed. Those are really the two major things. Then we go into the standard polishing operations found in most plants that do that sort of operation and put it in a plating tank.

Q When you say most plants that do that sort of operation, what sort of plants are you referring to?

A A company or a plant that would have the facilities to do polishing and plating.

Q Not limited to anesthesia machine manufacturers?

A Oh, no.

Q Next I believeyou mentioned that there are gas regulators in this piece of equipment?

A That is correct. They are located down under the counter top, not visible in the picture.

Q Where do you get the gas regulators from?

A We buy them from the welding products division of Airco.

Q Now, are there other manufacturers of gas regulators suitable for anesthesia machine use besides the industrial gas division of Airco?

A Many of them.

Q Are there others who are not connected with the other manufacturers of anesthesia machines?

A Yes, there are.

Q Can you think of some?

A You have Union Carbide, the Linde Division, NCG, of course, they are to some degree in this field. Victo Regulator, Hammond Regulator, just to mention a few.

Q Then I believe you spoke of needle valves used to control the flow of gas?

A Yes.

Q Where do Ohio's needle valves come from?

A We manufacture our own needle valves.

Q Are there other manufacturers of needle valves apart from Ohio Medical?

A I believe there are.

Q And are there others who are not affiliated with American makers of anesthesia machines?

A I would believe so, yes.

Q Now, you next spoke of flowmeters on this piece of equipment. Where do Ohio's flowmeters, and if there are components in the flowmeters, where do they come from?

A There are really three components in the flowmeter system. One is the tube itself which is glass, the second is the small float, normally an aluminum float which rides up and down on the stream of gas within that tube, and thirdly there is the associated scale which would tell us at any given position on the tube the amount of gas that you are actually flowing.

Q Now, where does Ohio get the flowmeters it uses in this equipment and the components of those flowmeters?

A Well, the flow tube itself is purchased from Porter Instruments. The aluminum float is manufactured by Ohio Medical Products, it is simply a small -- it is done on an automatic screw machine, a small aluminum float. And the scale itself is a plastic blank scale to begin with, and we simply etch the numbers into the scale to correspond with the tube.

Q Now, you mentioned an automatic screw machine in manufacturing the aluminum float. Is that a device found in other than anesthesia factories, anesthesia machine factories?

A It is probably found in every machine shop in the United States.

Q Is the technology used for making the aluminum float patented or otherwise proprietary?

A Not that I know of.

Q Then I believe you referred to these tubes, did you call them a breathing circuit?

A It is a breathing circuit, yes.

Q How are these tubes acquired or made by Ohio?

A They --

MR. THURMAN: Your Honor, this is very interesting but I don't know why this is relevant to this proceeding. These people manufacture and buy parts,they don't manufacture everything that goes in there. It certainly has nothing to do with who is in the market. I would be willing to listen to this, it is interesting, I suppose, but I see no relevancy.

Objection on this line of testimony as far as relevancy is concerned.

JUDGE BARNES: What is the relevancy?

MR.KAPLAN: Certainly one aspect of relevancy is the ease of entry into this industry and I am trying to establish the components and technology and production techniques used in the manufacture of anesthesia machines are available to anybody who wanted to go into this business. The Commission argues that many of the components of the machines are sold as accessories, separately from the machines, and are in this multi-product market that we are hearing a lot about. And the technique of manufacture of various products that are supposedly being in a cluster or a multi-product market is one of several criteria used to determine if that is a proper market.

The Commission has not chosen to define the market as being the machines alone, but has broadened it considerably and attacked the validity of this bboad market, and that is the purpose of the line of testimony.

JUDGE BARNES: You may proceed.

Q Coming back to the breathing circuit, how are those manufactured or acquired by Airco?

A Well, as far as Ohio Medical Products is concerned, we manufacture our own breathing tubes.

Q Now, those breathing tubes that you manufacture, what are they made of?

A They can either be made of a conductive, what we call reuseable rubber, latex use with a carbon black which produces the conductivity, or it can be of a disposable nature which is probably a polyethylene disposable tube.

Q Does Airco make both?

A We make both.

Q Would you compare the similarities or dissimilarities involved in the technology of making a breathing circuit with the technology used in making the rest of the machine?

A I think they are quite dissimilar. Obviously, when you are spaking of the breathing circuit, you are either speaking of the technology involved in the dipping and curing and handling of latex-type materials in the case of the plastic or the disposable version you are speaking of the plastic teahonology as opposed to the hardware involved, where you are talking about machining, plating, polishing. So, they are quite different.

Q Now, this white cannister that you identified earlier, I think you called it the absorber; correct?

A Yes.

Q Now, is that a one-component item, or is it made up of several parts?

A Actually it is made up of quite a number of parts. There are two casings, the top and the bottom casing here, which we buy as raw casing and we go through about the same machining operation that I described in talking about yokes. There is a polypropylene housing, clear plastic housing which actually holds the absorbent material in a transparent manner so that you can observe at all times how far you are depleting the CO_2 and absorbing capability of the material.

Actually, as you absorb the CO_2 into what appears to be the white granular material, it starts to turn pink or blue so you can finally tell when you have to replenish it.

Q Now, what sorts of suppliers do you obtain the castings from?

A A regular foundry.

Q What sorts of firms do you obtain the polypropylene component from?

A There are a number of companies that will mold, in this case, I think it is sort of an extrusion process, will mold polypropylene or other types of plastic materials that can be used for this particular type of operation.

Q I gather Airco does not mold these polypropylene tubes?

A They do not.

JUDGE BARNES: Do you manufacture the contents of --

THE WITNESS: The absorbent itself?

JUDGE BARNES: Yes.

THE WITNESS: We do not. We buy it from another company. It is packaged for us under our lable and we distribute it throughout the United States.

JUDGE BARNES: It has to be replaced every so often?

THE WITNESS: Depending upon the usage of the machine. It is called an indicator absorbent. As it becomes depleted, it turns a different color, a blue color.

JUDGE BARNES: Is it depleted?

THE WITNESS: You have used up the absorbent capacity of the granules. They are very porous, they are individual granules.

JUDGE BARNES: But the container is still full?

THE WITNESS: Full at all times. You just dump it out, put a fresh charge of white material in. It is normally done every evening at the completion of the surgery schedule by an orderly.

Q We haven't discussed the vaporizer; is there generally one type of vaporizer used on anesthesia machines in the United States today or are there more than one?

A No, there is quite a vaiety of vaporizers, all of them having slightly different principles involved and all of them requiring more or less a calculation intheir use on the part of the anesthesiologist.

Q What are the general types or classifications of vaporizers used in the United States today?

A Well, of course, the most elementary or fundamental vaporizer is the old, what we call, bubble-through ether vaporizer. This goes back to the use of diethyl ether, the old-fashioned anesthetic. There is a certain amount of that agent used in this country and we are still required to supply vaporizers of that type.

Then we move up to, again, a bubble-through type, but we have added the ingredients of thermal compensation which permits a more predictable and more accurate concentration of anesthetic agent to the patient.

The next type is, again, a thermal compensation, it is not bubble-through. It simply is passing the gas across a wick which has been saturated with the anesthetic agent.

Then we have the type of vaporizer which is pictured here which I indicated was electrically operated and it is a series of electrical heaters that are in place in the vaporizer itself which permit you to maintain the temperature in the vaporizer at all times. Then the last type is a thermally compensated vaporizer which, in addition to maintaining the temperature and thus the concentration, more accurately, it is designed to reduce the amount of calculating, calculations, that the anesthesiologist must go through in order to compute the concentration of anesthetic that is being administered to the patient.

Q Does that have some term by which it is generally referred to in the business?

A It is referred to in the short version as a TEC type vaporizer.

Q Now, would you explain briefly how the simple bubble-through ether vaporizer works?

A We simply have a tube going down into a bottle of ether in which you bubble the gas and as the gas comes back out it has picked up a certain amount of ether and exits through another tube to the patient.

Q Now, I show you a segment of this Ohio catalog entitled "Anesthesia Machine Accessories," and I invite your attention to page 12 and I ask you if there are ether vaporizers depicted on that page?

A Yes. This is the one that I just described as being the old fashioned bubble-through type of ether vaporizer. This is the one in particular.

Q You are referring to Model No. 10?

A Yes, ether vaporizer. Another version, about the same principle, is to introduce a wick-type arrangement into the bottle which creates a greater surface area of the anesthetic and you pick up a little more anesthetic with the flow of gas.

Q The components of this ether vaporizer are what, Mr. Cosgrove?

A Well, obviously a glass jar which is a standard glass jar, a -- again, we used a casting which is machined in our plant, an assembly of valving in the top which permits the ports within this head to be opened a certain amount, depending upon the concentration which you wish to deliver to the patient,and a wicking material which, in this case, is simply what amounts to stringing ordinary string over a form to provide that greater surface area.

Q Now, you say this component up at the top is a casting?

A Yes.

Q Any special or proprietary skill involved in making that casting?

A No.

Q What type of equipment is it made on?

A Obviously the casting is made in a foundry. It goes into our plant and goes through a milling and a drilling operation, the normal machine shop operation.

Q Airco buys the casting and machines it?

A That is right.

Q Where do you get the glass bottles from?

A I don't know the name of the vendor, exactly, but I presume it is a manufacturer, it is a standard bottle that we buy from some manufacturers of large quantities of bottles.

Q Now, are there other manufacturers of these bubble-through either vaporizers, the type which you have been discussing, in the United States?

A I believe so, yes.

Q Could you name some of them for us?

A Well, I would assume that one I would be pretty sure of and that wouldbe Foregger Company.

Q Now, you mentioned a thermally compensated bubble-thro vaporizer. First of all, would you explain to the Court what thermally compensated means and why it is desirable?

A Allof these agents that are mentioned are volatile agents, they will vaporize. As you go through the vaporization process, there is a certain amount of heat vaporization required. As that -- that heat can come from a number of sources, as I mentioned. It can be electrically introduced through a heater, it can be introduced through the mass of metal surrounding the liquid. But, as you introduce the hear or without the introduction of heat, the temperature of the liquid would start to drop off and thus the concentration of the agent being delivered starts to drop off, and obviously the anesthesiologist is very interested in first, accuracy, and secondly, a continuous level of anesthesia at all times. So he is looking for a piece of apparatus which will assure him of an accurate and constant flor of the anesthetic agent.

So what you are trying to accomplish is to introduce heat into this sytem to compensate for that loss during the vaporization process.

Q Does Airco make or sell a thermally compensated bubble-through vaporizer?

A Yes, we do.

Q And does that have a model name or something?

A Yes. We call it a Vernitrol.

Q Is the Vernitrol a separate and distinct unit apart from the anesthesia machine as the ether vaporizer appears to be, or is it built in?

A It is an integral part of the **anesthesia machine itself.**

Q Is the Vernitrol sold apart from anesthesia machines by your company?

A No, it can't be.

Q Now, I see in this brochure, andsthesia machine accessory from the catalog at page 11, something called a sidearm Vernitrol.

A That is correct.

Q Now, would you tell his Honor what kind of a vaporizer that is?

A This is another form of a thermally compensated vaporizer and as the name implies, it becomes a sidearm on the machine itself and the purpose of it is to add additional capacity or choices to the anesthesiologist. In case he wants to use one of four agents and he only has three vaporizers on the basic machine, he can add this to the side of the machine and as an accessory simply flow gas through this and pick up the anesthetic.

Q Does Airco make the sidearm Vernitrol?

A Yes, they do.

Q Will you explain to the Court what the components are and where you get them from?

A The outer housing is simply a machine metal tube, steel tube. There is an inner core which is a brass casting which acts as the heat sink or the source of heat. Several machine caps at the top, and the bottom. The same type of flow scale that I described in the basic anesthesia machine, and this is nothing more than an indicator of the level of the anesthetic in that tube at any given time.

Q And where do you get those components from, sir?

A Most of them are purchased on the outside. The castings are, the steel tubing, the outer tubing. We machine the end caps from regular steel stock.

Q Is there any specialized or propritary technology involved in making that equipment?

A I don't believe so.

Q Any equipment that would not be on the market available to anyone inclined to make it?

A I don't believe so.

Q You also mentioned a thermally compensated vaporizer in which you pass the gas across a wick?

A Correct.

Q Does Airco make such a vaporizer?

A We make that Model No. 8 which I just showed you, the old ether vaporizer, that is a wick vaporizer, the most elementary form.

Q That is at page 12 of the anesthesia machine and accessories brochure.

Do you make any other ones apart from that?

A No, we don't.

Q The vaporizers, the thermally compensation vaporizers in which gas is passed across a wick, are they used in the United States today for other anesthetic agents other than ether?

MR. THURMAN: I object, your Honor. It seems now that he is going on to something else, not made by Airco, what is in the United States today is objected to as having no foundation.

JUDGE BARNES: I assume Mr. Cosgrove is aware of his competition.

MR. THURMAN: I would like to see some of that competition testify rather than Mr. Cosgrove testify what other people do.

JUDGE BARNES: Do you have personaly knowledge of it, Mr. Cosgrove?

THE WITNESS: Yes.

Q Are there other such vaporizers available or in use in the United States today?

A Yes.

Q And who are the manufacturers of those vaporizers or importers if they are imported?

A Well, there are three main ones. One is manufactured by Fra~~z~~ser ~~Swetmann~~ Sweatman, the second is by the Foregger Company, and the third is imported by North American Drager from Drager in Germany.

Q The thermally compensated vaporizers, are those integral to the anesthesia machine or are they sold separately?

A Separately.

Q The next one you mentioned was an electrically thermally compensated operated vaporizer and I believe you said that is the type that is in the DM 5000 machine?

A That is correct.

Q Is that a vaporizer integral to the machine?

A It is.

Q And does Ohio make those for use in its own machines?

A Only for use in their own machines.

Q Does anyone else make vaporizers of that type in the United States or import them?

A They do not.

MR. THURMAN: I didn't hear the last answer.

(Record read.)

Q Now, lastly, you mentioned a tec type vaporizer. Does Ohio make any tec type vaporizers?

A No, we do not.

Q How does the tec type vaporizer differ from the others that you have described thus far?

A Well, the units that I have described before, rely either on heat produced by electricity or by a large mass of brass to pick up the ambient heat to act as the heat sink ro maintain the vaporization level of the agent within the vaporizer. The tec type relies on what we call a bimetallic strip principle. That is two metals combined which are very sensitive to the temperature and as the temperature cools or drops, it has the action of opening the porting within the vaporizer more widely so literally the bimetallic element senses the temperature and compensates for it.

Q Now, does Ohio sell any tec type vaporizers?

A Yes, we do.

Q Where do you get the ones you sell?

A We buy them from Frazer-Swetmann.

Qq How long is it that you have been buying them from Frazer-Swetman?

A Probably about three years.

Q Now, taking the broad range of vaporizers we have been discussing this monning, would you list for us the companies that manufacture or sell imported vaporizers --

MR. KAPLAN: I will strike that and rephrase it.

Q List for me the companies that manufacture such vaporizers in the United States or import foreign manufactured models?

A Are you referring to tec type vaporizers?

Q All of them.

MR. THURMAN: Your Honor, I object to the question. It is too broad. The form of the question is objectionable.

JUDGE BARNES: I think he can answer that.

A Would you mind rephrasing it for me?

Q Sure. Are you familiar with other vaporizers sold in the United States aside from those that Airco manufactures?

A Yes.

Q Now, what other companies make vaporizers in the United States, we'll take them one at a time.

A Within the United States you have the Foregger Company, you have Frazer-Swetmann, you have Dupaco. Then we have Drager that comes up as an import. I believe that is all I can think of.

Q Have you any familiarity with whether Penlon Vaporizers are sold in the United States?

A That is an English vaporizer and I believe it is sold in the United States.

Q What about Soxil?

MR. THURMAN: I object to the last question. He led him to begin with and then the witness said "I believe."

JUDGE BARNES: The question was to refresh his memory.

THE WITNESS: I know of Penlon.

MR. THURMAN: How does he know they are dold in the United States, are they competing with him?

MR. KAPLAN: I will be happy to ask the question.

Q How do you know Penlon Vaporizers are sold in the United States?

A We have seen a number of them on machines in hospitals around the country.

Q What about Soxil, are Soxil vaporizers sold in the United States as far as you know?

A Soxil is manufactured by an Italian firm and to the best of my knowledge, they are not sold in the United States.

Q Have you heard of a vaporizer called Takiocha?

A Takiocha is manufactured in Brazil by a Japanese doctor and there are a few of them in the United States which I have seen in use.

JUDGE BARNES: Does British Oxygen make vaporizers?

THE WITNESS: British Oxygen would be the the cyprane vaporizer which is Frazer-Swetmann.

Q Now, sir, Ohio sells one or morethan one model of anesthesia machine?

A More than one.

Q And would you identify for us the diffement models that Ohio sells?

A The 5000 series which we have been describing this morning. Then we go to what we call out 2000 series, if I may look at these?

Q Be my guest.

Perhaps complaint counsel can help out on this.

A We have another model in here that we call the 2000 series. Then we have what we call a compact anesthesia machine. We have what we call the Unitrol andsthesia machine, and finally the wall-mounted anesthesia machine.

Q What methods are used by Ohio in marketing anesthesia machines?

A In the United States, Ohio markets their anesthesia machines either on a direct basis or through a series of dealer to the anesthesiologist and nurse anesthetists.

Q Can you tell us what the breakdown is as between the machines marketed through dealers and machines marketed directly?

A 50-50.

Q Does Ohio make or sell nitrous oxide sedation equipment for dental use?

A No, we do not.

Q Do you sell veterinary anesthesia machines?

A We sell veterinary anesthesia machines, we sell them through Pittman-Moore, a division of Johnson & Johnson.

Q They have a marketing staff?

A Yes.

Q And your anesthesia machines for human use, do you attempt to promote their sale in some way?

A Oh, yes.

Q What are the ways in which you promote the sale of human anesthesia machines?

A Other than the obvious way of your salesman calling on the customer himself or working through our dealer organization, we advertise in the major anesthesia journals. We participate in the major anesthesia society meetings throughout the country. We will support studies on various equipment that may be introduced.

Q What do you mean by participate in anesthesia society meetings?

A Well, normally it is what you call commercial exhibits in which you take booth space at the meeting and display your equipment. You have your company representatives there and they, inturn, talk with the doctors and answer their questions and so forth.

Q Is that a practice unique to Ohio or do other people wanting to sell such equipment exhibit at meetings of anesthesiologists?

A It is a practice folowed by all manufacturers of this type of equipment in this country.

Q Do manufacturers and others selling equipment advertise in the journals you referred to?

A Yes.

Q What journasl can you bring to mind that Ohio and others in this business advertise in?

A Well, the most prestigious and the largest would be the Journal of the American Society of Anesthesiologist. The second is Anesthesia and Analgesia. The third is the Journal of Nurse Anesthetists, and while it is a Canadian journal, it is read widely in this country, and that is the Canadian Journal of Anesthetists.

Q What anesthesia society meetings does Ohio and other manufacturers participate in?

A Again, the American Society of Anesthesiologists holds a yearly meeting attended by Ohio. There are a number of, I guess you would classify them as more regional meetings, but yet large and important and well attended by people throughout the country. We attend those. We also participate at many society and even county-level meetings.

Q Now, Mr. Cosgrove, I show you a document marked BOC RX 232 and ask you if you can identify that.

A Yes, this is the official journal of the American Society of Anesthesiologists, the April 1974 issue.

MR. KAPLAN: At this time I would like to offer BOC RX 232 in evidence. I will come back to it later on but this seems an appropriate point.

JUDGE BARNES: What is the purpose of that offer?

MR. KAPLAN: The purpose of the offer is to show the kinds of advertising and the kinds of companies who advertise in that media, which, I believe, would be relevant to the question of the market here, your Honor.

I will come back later on and call particular parts of it to your Honor's attention, but inasmuch as it is bound, we thought it appropriate to not tear it apart.

JUDGE BARNES: Any objection, Mr. Thurman?

MR. THURMAN: Certainly, your Honor, we object to this. Let him name the companies that advertise. They do advertise, he just testified to that. We stipulate that this is a book. Many companies in related fields advertise in this book and not particularly pertaining to this product market. There is article after article not relevant to this proceeding, in this book. We will stipulate that the companies he has named advertise in this book.

MR.KAPLAN: If we had a final decision in this case as to what the market was, we would be glad to --

JUDGE BARNES: I think the magazine has some relevancy and it is best that we do not tear it apart.

MR. THURMAN: We have copies here that can be torn apart, that thick.

JUDGE BARNES: I like the color photographs better than the ones that you have.

I will received RX 232 in evidence.

(BOC RX 232 received in evidence.)

Q I show you a document marked BOC RX 228 and as you if you can identify that document.

A This is the official program of the 1973 annual meeting of the American Society of Anesthesiologists held in San Francisco, California, on October 7 through 11, 1973.

Q Did Ohio exhibit at that show?

A Yes.

MR. KAPLAN: Your Honor, I offer it in evidence for the same purposes as the last exhibit. And to anticipate complainant counsel, there is a list of exhibitors in the document, I believe it begins at page 74 or 84 and to further anticipate counsel, British Oxygen is listed there, it is no secret.

JUDGE BARNES: British Oxygen had three booths. Ohio Medical Products had six booths.

THE WITNESS: Yes, sir.

JUDGE BARNES: Frazer-Swettman had two booths. Harris Lake had two booths.

Any objection, Mr. Thurman?

MR. THURMAN: Is this just put in for the people that exhibited there and nothing else?

JUDGE BARNES: I think it is an exhibit that has some relevance to the market and how the product was sold.

MR. THURMAN: Certainly I have no objection to who were the exhibitors, but, all this other hearsay -- I have never seen so much hearsay go into a record. I don't know what this other means. I haven't read all this stuff and I don't think it is relevant.

JUDGE BARNES: How long have you had a copy of this exhibit?

MR. THURMAN: If I read every book that they put in I would be here until next year trying to finish the case.

MR. KAPLAN: We will see if we can't finish up by tomorrow, Mr. Thurman.

JUDGE BARNES: You should have assigned certain of these exhibits out to other member of your staff to read.

MR. THURMAN: I look at the basic title and the first paragraph or so and see there is no relevancy and see that there is no reason to read the rest of the book. I am sure some will be cited to us --

MR. KAPLAN: I am sure Mr. Thurman is familiar with the maxim that you can't tell a book by its cover.

JUDGE BARNES: I will receive Exhibit 228 in evidence.

(BOC RX 228 received in evidence.)

Q Approximately how many anesthesia machines did Ohio sell last year, do you recall?

A Just an estimate, around 2500.

Q And has Ohio sales units of anesthesia machines gone up or gone down or remained flat in about the last five years or so?

MR. THURMAN: I object. The form of the question, and there is better evidence than to ask the opinion of this witness.

JUDGE BARNES: That is not an opinion.

Do you know, Mr. Cosgrove, have your sales been increasing?

MR. THURMAN: Your Honor, I would suggest the question is a multiple question. What were the sales in one period of time or in another period of time. You can tell from the fact whether they increased or not, not from a statement of him whether they stayed flat.

JUDGE BARNES: I imagine it would mean that they stayed in the neighborhood of 2500 if it remained flat, and if it went up or down and if you feel it is relevant, you can ask him what they were.

You may answer the question.

A The sales of anesthesia machines has stayed relatively flat over the last three or four years.

Q In the course of running Ohio, do you make estimates from time to time of how many anesthesia machines are sold in total in the United States?

A Yes, we do.

Q Woud you say that the total sales of number of machines have gone up, gone down, or remained about the same in the last five years?

A It would be our estimate that the industry experience is pretty much the experience that we had, that is to say that the sales of the machines have been pretty flat.

Q In the last 10 years, have some firms entered the manufacure of anesthesia machines in the United States?

A Yes, I believe they have.

Q Would you name the ones of which you are aware?

A Two that I am aware of are Dupaco and Drager.

Q As far as you know, have any firms stopped manufacturing anesthesia machines in the last ten years?

A No, sir.

JUDGE BARNES: Mr. Cosgrove, what is the replacement schedule on anesthesia machines, how long do they last, can you buy parts for them?

THE WITNESS: Unfortunately, your Honor, or fortunately, these machines have a very long life. There are machines in the field that have been there for as long as 20 to 25 years.

JUDGE BARNES: Do they have to replace the hoses or any of the other parts?

THE WITNESS: Yes, they do. These parts are readily available.

JUDGE BARNES: How about the needle valves, do they have to be serviced or replaced?

THE WITNESS: Yes, they require periodic adjusting or in some cases replacement if they have been abused.

JUDGE BARNES: Who does the repair work?

THE WITNESS: It can be handled in a variety of ways. Ohio has their own service organization which would handle this type of repair. In certain cases the hospital itself would have their own, what they call biomedical instrumentation laboratory or department which would handle this type of repair.

J JUDGE BARNES: I assume hospitals carry more than one machine, do they not? They have reserves?

THE WITNESS: Of course, it would depend upon the size of the hospital. It could run anywhere from two anesthesia machines up to 100. I am sure that Presbyterian here in New York has probably at least 100 anesthesia machines, if I am not mistaken.

Q Now, Mr. Cosgrove, we have in evidence Commission Exhibit 330 which was in camera --

MR. KAPLAN: Which, for your Honor's information, lists sales of various pieces of equipment by Ohio and since Mr. Nickel and I are in the dark as to what some of it is, we will have to go down it and see what this equipment is. I propose to do that now with Mr. Cosgrove.

BY MR. KAPLAN:

Q Mr. Cosgrove, what is the price range of the anesthesia machines that Ohio sells?

A At the low end of our scale, the more simpler versions woul' be around $1,000. The high end would be about $3,000, $3500.

Q Do you promote the veterinary anesthesia machines that you sell in the same way that you promote the human anesthesia machines that you sell?

A Ohio itself doesn't promote the veterinary machines at all. That is done by Pittman-Moore.

Q Are you familiar with the way in which they go about promoting the sale of that equipment?

A Yes.

Q Do they advertise in the same journals?

A They do not.

Q At the same trade shows?

A No, sir.

Q I think you said the veterinary equipment was sold through dealers, or am I mistaken?

A I think you are mistaken. Veterinary equipment is sold by Pittman-Moore generally on a direct basis.

Q Does Pittman-Moore sell any human anesthesia machines?

A They do not.

Q What is a rebreathing reservoir bag, and if there is a convenient picture, let's refer to it.

A It is the same on any of these models. It is this bag which is, as the name implies -- It is this bag, it doesn't make much difference which model machine we are looking at, it is always there, it is this particular bag and, as the name implies, it acts as a reservoir for the gases, a reservoir in which the gases are mixed. So you get a good mixing of it and it acts as a means of holding a larger capecity, larger than the volume breathed at any one time.

MR. KAPLAN: May we have the record reflect that Mr. Cosgrove was pointing to a black bag depicted on a brochure called "Wall-Mounted Anesthesia Machine," which is contained in the Ohio catalog.

Q What is the rebreathing reservoir bag made out of?

A Out of latex rubber.

Q Does Ohio make them?

A Yes, they do.

Q Are there other firms in the United States that make rebreathing reservoir bags?

A Yes.

Q Who are they, as far as you are aware?

A Thereis Seiberling Rubber, Oak Rubber, there are two or three imports into the country which are used extensively by other people in the field. From Franklin -- among others -- Franklin and Eshman, which are English firms.

Q Is Franklin, as far as you are aware, a subsidiary of some other company?

A One of the two I mentioned is, but I am not sure which one.

Q Do you happen to know the parent of whichever of the two U.K. companies you mentioned?

A GD Searle.

Q Now, the next item on this exhibit is anesthesia conducting tubes. Now, what are they, sir?

A Well, referring to the same document, these are the corrugated flexible tube through which the -- well, of course, here they are coiled and hung on the machine, but they extend out to the patient. There are two tubes always involved. It is a unit directional system, one tube introduces the fresh gas andsthetic into the patient and as he exhales, it goes into the other tube and into the absorber. You always have two tubes into the system, one that brings the gases to the patient and one that takes the gas back through the absorber back into the bag again, and back to the patient.

JUDGE BARNES: There is only one face mask; is that it?

THE WITNESS: Yes, one face mask.

Q The tubes you have just pointed out to his Honor on the piece of Ohio catalog, are those reusable or disposable?

A The ones that are depicted here on this particular document happen to be reuseable.

Q Are there also disposable anesthesia conducting tubes?

A Yes.

Q And Ohio makes some of them, I take it?

A Yes.

Q Who else makes anesthesia conducting tubes, disposable ones?

A You have Dupayco, Medicon, Flex Tube, 3 M, Foregger.

THE WITNESS: Your Honor, I am sorry. There are approximately 14 other manufacturers of these tubes. I have named a few of them and I just don't recall all of them, but I know there are a total, at last count, of about 14.

Q Would the name Pharmaceal refresh your recollection?

A Yes.

Q The name Medicon?

A Yes.

Q They are both manufacturers of disposable tubes?

A Yes.

Q Now, the disposable conducting tubes, are they interchangeable or not interchangeable?

A They are interchangeable.

Q The next item on our list here is anesthesia airways;

what are they, sir?

A An anesthesia airway is a small curved tube, I guess you would have to call it a tube, which is inserted into the trachea, normally following anesthesia after the mask has been removed or the endotracheal tube itself has been removed, to be sure that there is a clear airway at all times for the patient's recovery from the anesthetic.

Q What are they made out of?

A Either rubber or plastic.

Q Does Ohio make them?

A We make a plastic version.

Q Is there any special technology involved in manufacturing the plastic version?

A None at all.

Q How about the rubber version?

A No.

Q Who, besides Ohio, makes anesthesia airways of one kind of another as far as you are aware?

A Mr. Kaplan, I don't know. There are quite a number, I know that, and they are sold under different names, but I don't know who they are.

Q Now, his Honor asked about face masks a moment ago. Is there one type of anesthesia face mask or more than one?

A I am not sure I understand what you mean by type.

Q Well, are there plastic ones, rubbbr ones, conductive and non-conductive, whatever the case may be?

A Well, speaking specifically of anesthesia masks, they can either be disposable or reusable and within the reusable category there are different configurations available.

Q Now, does Ohio make one or the other or both kinds?

A Ohio makes both.

Q And how -- of what substances are they made and how are they manufactured?

A In the case of the reusable rubber, it is a dipping process of a conductive latex material over either an air-type cone, an air cushion, I should say, or in some cases, a foam type cone.

In the case of the disposable, it is a foamed cone which provides the sealing, of course, around the face and a plastic backing, which is an injection molded piece.

Q Are there other manufacturers of those two types of face mabks in the United States besides Ohio?

A No, there are not.

Q Of either kind?

A No, sir.

Q Are there any other face masks used in the administration of anesthesia apart from the two kinds you make?

A Do you mean does somebody else -- I am afraid I don't understand the question.

Q Well, I think you said Ohio was the only U.S. manufacturer of face masks, disposable and reusable.

A That is correct.

Q Are any other face masks other than the ones you make used for the administration of anesthesia in the United States?

A Yes, quite a number.

Q Would you tell us the other kinds of face masks?

A To the best of my knowledge, the masks that are sold and used by anesthesiologists are imported into this country.

Q Who are the manufacturers of the imported masks with which you are familiar?

A You have Rusch in Germany, you have Franklin and Eshman.

Q Now, Connecting Y-pieces, what are they?

A That is the portion of the breathing circuit where the two tubes that I just described are joined, adjacent to, either the mask or the endotracheal tube.

Q And does Ohio manufacture such equipment?

A Yes, they do.

Q Does anyone else?

A I believe they do.

Q Who else are you familiar with?

A I am familiar with Foregger, Dupayco, Draeger.

Q Does anybody import Y-pieces with which you are aware?

A I don't know for a fact.

Q Now, absorbers are listed here. I take it they are the same absorbers we talked about earlier.

A That is correct.

Q Does anybody besides Ohio make absorbers?

A I would say that all the other manufacturers of anesthesia equipment make absorbers.

Q And are you aware of any other manufacturers of absorbers?

A Absorbers as we are speaking of them, no.

Q Now, the next item here is anesthesia flowmeters, and I believe those were described before; is that correct?

A That is correct.

Q And you sell a number of those apart from the anesthesia machines?

A No, we don't.

Q Are any flowmeters sold by others in the United States apart from the anesthesaid machines for use with anesthesia machines?

A Well, I wouldn't know specifically that they are. Not to my knowledge. But that doesn't mean that they couldn't be.

Q What is anesthesia ventilator?

A An anesthesia ventilator is a device used in conjunction with the anesthesai machine and it permits the anesthesiologist to regulate the breathing of the patient to a much greater degree of accuracy than he can by simply, as he terms it, squeezing the reservoir bag. Also, it permits him to literally breath for the patient in that type of case where, through various drugs, may have reduced the patient's ability to breath on his own.

Q Now, I will show you a piece of the Ohio catalog entitled "New Fluidically Controlled Anesthetic Ventilator." Is that a ventilator made by Ohio?

A Yes.

Q How long has Ohio been making that ventilator?

A About six months.

Q And prior to that, did Ohio market any ventilators?

A Yes, we did.

Q Where did Ohio get them from?

A We purchased all of our ventilators from the Monahan Company.

Q Dó you still purchase anesthesia ventilators from Monahan?

A We do not.

Q Are there other anesthesia ventilators on the marked in the United States today?

A Yes, there are.

Q Who else sells them, makes them, that is?

A Monahan, of course. They sell ventilators themselves. Air Shield, Engstrom, Bird. There are certain of the Bennett type ventiloators used in anesthesia.

Q Do you recall any others?

A I believe Emerson makes them.

Q What about North American Draiger. Do they market a ventilator?

A Yes.

Q Are you familiar with whether or not G.C. Searle markets a bentilator in the United States?

A G.D. Searle is just introducing a new ventiloator in the United States.

Q Andthat is a ventilator that they make or that they buy from someone else?

A I really don't know.

Q Now, what is a respirometer?

A A respirometer is a device which would record or indicate the volume of gas or air, I should say, that the patient is inhaling and exhaling.

Q Does Ohio make any?

A We do not.

Q What is an endotracheal tube?

A An endotracheal tube is a device which is inserted into the trachea which permits the passage of air or anesthetic mixture to the patient. It is used as an alternative to the breathing mask which is also used in anesthesia.

Q Does Ohio make any endotracheal tubes?

A We do not.

Q Do you sell any?

A We do.

Q Who manufactures the ones you sell?

A We buy them from National Catheter.

Q Do you sell any respirometers?

A No, we do not.

Q What is a laryngoscope?

A A laryngoscope is an illuminated instrument which assists the anesthesiologist in the insertion of the endotracheal catheter into the trachea.

Q Does Ohio make any?

A We do not.

Q Do you sell any?

A Yes, we do.

Q Who makes the ones you sell?

A We purchase our total requirements **from Welch Ally**~~and~~n Company.

Q Are there any other manufacturers of laryngoscopes or importers that you are aware of?

A The Foregger company is the largest one in this country.

Q What is an esophageal stethoscope?

A That is a tube inserted into the esophagus and connected by a tube to an earpiece which the anesthesiologist inserts into his ear and he can listen at all times for the same heart sounds that he would get through a sthethoscope.

Q Are esophageal stethoscopes used during the insertion of anesthesia?

A Yes.

Q Are they used by anesthesiologists?

A Yes.

Q Does Ohio Medical make any?

A No.

Q Do you sell any?

A Yes.

Q Who manufactures the ones that you sell?

A A company called the Frank Simmons Company, Rochester, Minnesota.

Q Who else manufactures or imports esophageal stethoscopes as far as you are aware?

A I don't know.

Q Now, what part of the Ohio catalog is the esophageal stethoscope contained in?

A I am not sure. Probably under accessories.

Q Any particular kind of accessories?

A The rubber goods accessories, is there a section there?

MR. KAPLAN: I am showing the witness a brochure from the Ohio catalog and on page 16 are listed Esophageal stethoscopes.

Q Correct?

A Yes.

Q Just to point out to the Court, since this is in evidence or it will be in evidence, also listed in this brochure, if

I may bring the court's attention to it, are anesthesia masks, rebreathing bags, inhaler valves, anesthesia airways, forceps, endotracheal tubes, various accessories for that, laryngoscopes, and the esophageal stethoscopes.

Q This book I just referred to, what part of the Ohio catalog is that contained in, what classification of equipment?

A The general classification anesthesia.

Q It was mentioned a second ago by me, forcepts. Are forceps used by an anesthesiologist?

A Yes.

Q What are they used for?

A It is another aid in the insertion of the endotracheal catheter.

Q I believe it is through that that you testified that the gas is administered to the patient?

A Yes.

Q Does Ohio make any forceps?

A We don't.

Q Do you sell any?

A Yes.

Q Who makes the ones you sell?

A I don't know.

Q Are you aware of any manufactureres of forceps?

A By name, no.

Q Now, the next thing listed here is something just denominated as AVC, perahps you can enlighten us. Do you know what an AVC is?

A Yes. It stands for analyzer vaporizer controller.

Q What does it do?

A It is an electronic devise which is introduced into the breathing circuit of the patient to analyze the gases within the circuit and to actually vaporize part of the volatile anesthetic and in order to maintain a preset concentration.

Q What is the relationship between analyzer part of it and the vaporizer part of it?

A Well, it is actuall servo-mechanism or a servo-loop. Actually, you are analyzing the concentration by electronics and signatlling the vaporizer to vaporize and introduce into the system a predetermined amount of anesthetic.

Q I see. Now, you said you are analyzing the concentration, the concentration of what?

A The concentration of anesthetic gases in the breathing circuit.

Q This automatically controls the dosage of anesthetic to the patient; is that correct?

A That is correct.

Q If an anesthesiologist doesn't use an automatic ventilator or an AVC, how does he perform that function?

MR. THURMAN: Objection, no foundation. An anesthesiologist would know how the function is performed. It is something outside the knowledge of this witness.

JUDGE BARNES: Mr. Cosgrove makes the machine, the equipment, and he understands how it works. If he can answer the question, I will permit him to.

MR. THURMAN: I don't think there is any testimony that he makes something in lieu of this. Maybe the anesthesiologist does something with his hands, I don't know. I don't think the witness knows. There is no proper foundation.

MR. KAPLAN: There is one way to find out.

JUDGE BARNES: You may answer the question.

A Well, there are other techniques practiced by the anesthesiologist to perform the samefunction. One technique is based on the flow of the gases through the circuit itself because of the potency of the anesthetics presently being used, it is very important that the concentration be carefully monitored at all times because the margin of safety between anesthesia and, let's say, respiratory failure, is rather narrow. So, as long as the anesthesiologist flows a high enough flow of gas through that system, he would tend to flush out excess concentrations of the anesthetic. And, therefore, he can be reasonably assured that the concentration he is delivering to the patient through the traditional vaporizing systems is a safe concentration.

The purpose of the AVC was to permit him to use a lower flow of gas and therefore measure the concentration in the so-called lower flow.

Q Why would someone want to use that lower flow of gas, do you know?

A Well, primarily it is two reasons. One is economics and the other the safety of the surgical team.

Q Now, are there other techniques apart from the use of AVC employed by anesthesiologists in controlling the concentration of anesthetic that goes to the patient where low flows are used?

A There are the certain physiological signs which the anesthesiologist relies on to measure the depth of anesthesia.

MR. THURMAN: Your Honor, I object to his testimony. He is talking about what an anesthesiologist does.

JUDGE BARNES: This question may have gotten a little out of Mr. Cosgrove's field. I will permit the answer to stand. I don't think it is prejudicial.

Q Are gas chromatographs used to perform any of the functions that an AVC performs?

A In an indirect manner, yes.

Q Will you explain that?

MR. THURMAN: First we would like to know what it is.

MR. KAPLAN: We will get to that.

MR. THURMAN: I would like to get the horse before the

the cart. The record should know what it is.

MR. KAPLAN: I have no objection to that, your Honor. I didn't notice anybody telling Mr. Thurman what order to ask his questions in.

JUDGE BARNES: These questions are directed to the competing products, I guess, in the market?

MR. KAPLAN: Of course.

JUDGE BARNES: I think this would be a good time to take a lunch recess and come back at two o'clock.

(Whereupon, at 12:30 p.m., the hearing adjourned for lunch.)

AFTERNOON SESSION 2:00 p.m.

RAY D. COSGROVE

resumed the stand.

EXAMINATION CONTINUED

BY MR. KAPLAN:

Q Mr. Cosgrove, before lunch we were talking about the AVC, I believe you said it had an element in it that monifored the gas concentration. What gas concentration did it monitor?

A Halothane and fluothane.

Q And the monitoring secion is connected in some way to a servo-device?

A Yes.

Q What does that do?

A It controls the amount of anesthetic that is introduced into the system based on the pre-setting.

A Are there other devices that perform the monitoring function that is performed by the AVC?

A The ultimate way of monitoring the concentration of anesthetic is to monitor it in the blood and this is our blood gascromatograph, and this involves taking a finite gas sample and running it through the cromatograph and determining the concentration of anesthetic.

Q Did you mean finite blood sample rather than finite gas sample?

A Yes. I am sorry.

Q Are such blood samples taken during surgery from time to time?

A Not in all surgery. In a certain limited number of cases, depending upon the type and complexity.

Q And the information that comes back from the analysis of the sample, who does that go to, if anyone, in the operating room?

MR. THURMAN: Your Honor, I don't think he is a surgeon or anesthesiologist.

JUDGE BARNES: This seems to be getting more into the medical field and I wonder how much further we are going to push it.

MR. KAPLAN: Not very much further, your Honor. Ohio sells this piece of equipment and presumably in order to sell that effectively Mr. Cosgrove has to know what function it performs and what alternatives it has to it. I think the witness is qualified on that.

MR.THURMAN: We disagree on that. He hasn't been to medical schoool. He can testify as to what he sells, but that is as far ashe should be allowed to go. I don't know the relevancy to start with. Whether a blood sample or not is taken, I don't know the necessity of that.

MR. KAPLAN: Your Honor, it seems to me that the question of other products that are useful for the same purpose --

JUDGE BARNES: Other products for the same purpose, if he knows, I think he can testify to that.

Q What other products are used to perform the same analysis function as performed by the AVC?

A As I mentioned, the blood cromatograph --

MR. THURMAN: Objection. He doesn't sell these products. I don't think the record is clear on that.

JUDGE BARNES: The products he sells are in competition with other products. He knows what competition his company faces --

MR. THURMAN: Maybe. Maybe they have a monopoly or almost a monopoly.

JUDGE BARNES: You can ask him that on cross.

Q You mentioned the gas cromatograph, anything else?

A A device called a Mayo Analyzer, which, in this particular case takes a gas sample as opposed to a blood sample and by selected measurement means, will tell you the concentration of a specific anesthetic agent in the gas stream.

Q Any other that you can think of?

A Those are the main ones I can think of.

Q Are they used by anesthesiologist or other kinds of medical personnel?

A Well, the Mayo analyzer and the AVC are certainly used by the anesthesiologist. The chromatograph is used by the anesthesiologist but by other departments of the hospital as well.

Q I see.

Now, the mayo analyzer, where, typically, with relation to the hospital operating room is that located during the anesthetic procedure?

A In the surgical suite next to the anesthetic machine.

Q What about the gas chromatograph?

MR. THURMAN: Your Honor, I don't think he has ever given gas in surgery. Maybe he knows what the machine is all about. I think a foundation has to be laid.

MR. KAPLAN: Maybe we will lay a little foundation, your Honor.

Q Mr. Cosgrove, have you witnessed surgical procedures performed from time to time?

A Quite often.

Q Would you estimate for the Court how many times you have seen surgical procedures performed?

A Several hundred.

JUDGE BARNES: Why so many?

MR. TOPKIS: He loves the sight of blood.

THE WITNESS: Besides the gruesome curiosity, mainly because it ties in very closely with the type of equipment that we are developing for this particular area, and, of course, anesthesia ties closely with surgery itself.

Secondly, we have a very strong program going in the development of new anesthetic agents which are clinically tested in the hospitals around the United States and so we monitor this program. As a part of that, I try to get out and see what is happening, and, of course, this has been over a period of six or seven or eight hears that I have done this.

JUDGE BARNES: They let you in the operating room or do you view it by television or --

THE WITNESS: Put on a gown, a mask, and a cap, and stay out of the sterile field and under certain conditions in certain hospitals you are allowed to go in.

Q Does knowledge of the equipment used by anesthesiologists and the methods they use have any business significance to you in the business at Ohio?

A Would you repeat it, please?

Q Is it helpful to your or not to know what type of equipment an anesthesiologist uses --

A It is the only way we can determine what the anesthesiologist wants, to observe him using the equipment.

Q Have you seen gas chromatographs used by anesthesiologists in hospitals?

A Yes.

Q Specifically where have you seen those chromatographs being used with relation to the surgical suite?

A Well, two locations. One would be outside of the surgery itself, it might be in what they call the anesthetizing area, a room adjacent to the surgery where certain equipment is kept and in some cases the patient is anesthetized before he is brought into surgery itself, and in another place would be the laboratory.

Q Can you name some hospitals where you have seen the machine right next to the operating room?

A One is John Gaston Hospital in Memphis, Tennessee.

Q Now, who makes gas chromatographs, if you know? Does Ohio, first of all?

A No, we do not.

Q Who makes them?

A I believe Hewlett-Packard does, and I am not acquainted with any others.

Q Are you familiar with a piece of equipment called an oxygen analyzer?

A Yes.

Q What is an oxygen analyzer and what is its function?

A As the name implies, it is a means of analyzing the concentration of oxygen. In the case we are speaking of, the amount of oxygen in the patient circuit.

Q Who is the person in the operating room, if anybody, who uses an oxygen analyzer?

A The anesthesiologist.

Q Why does he do that?

MR. THURMAN: I have a continuing objection on this. If we had an anesthesiologist on here who testified as to what they do, he could tell us about it. To say what an anesthesiologist does is not within the realm of this witness' knowledge.

MR. KAPLAN: Let me lay one preliminary.

Q Do you sell oxygen analyzers?

A Yes.

Q In selling them, do you have to have some familiarity as to who uses them and what they are for?

A Yes.

Q Do you have such familiarity?

A Yes.

MR. THURMAN: We have no objection as to what equipment he sells and what it is used for. Our objection is when he talks about anesthesiologists.

Judge Barnes: He is also competent to talk about competing products. What products his products compete with.

Q I think you said oxygen analyzer gives you the concentration of oxygen in the gas stream; is that right?

A Yes.

Q And the anesthesiologist gets that information in the operating room?

A Yes.

Q Do you know why he gets that information?

JUDGE BARNES: Do we need that question now?

MR. KAPLAN: I think so, your Honor, because that would lead to the question of competing products, once again.

MR. THURMAN: I don't know why he doesn't ask what products he competes with.

JUDGE BARNES: I think that would be a better approach.

Q Are there other products that perform much the same function as the oxygen analyzer?

A There are other oxygen analyzers on the market.

Q Who makes them?

A Bio-Marine.

Q Any others you can think of?

A I am sure there are others but that is the principal one I can think of.

Q How about Beckman Instruments?

A Very possible.

Q How about Electrodym?

A I believe they do.

Q Now --

JUDGE BARNES: Mr. Cosgrove, I think you ought to be certain in these answers. If you are not certain -- you just said "very possibly," and "I believe they do." That won't be helpful to me. If you know, say yes.

Q Specifically with respect to Electrodym, do you know?

A I don't know.

Q What is a gas evacuator, Mr. Cosgrove?

A Itis a device that mounts on the top of the absorver of an anesthesia machine which takes the excess gases on a circuit and bleeds them off through a ventilating system to the outside.

Q Is it used actually to put anesthetic gas into the patient?

A No.

Q What is a flowmeter shield?

A It is a clear plastic covering which goes over the flowmeters to prevent them from being broken since they are glass and the movement of the machine about surgery and between surgery makes it liable to be broken easily.

Q Is that used to put anesthetic gas in a patient?

A No.

Q I notice an item on Exhibit 330, it is "Drawers." I guess those are just the drawers in an anesthesia machine?

A Yes.

Q The next item is an abbreviation, Asp. and Suction. What is that?

A Aspiration and suction.

Q Is aspiration and suction equipment used by anesthesiologists?

A Yes.

Q Does Airco sell it?

A Yes.

Q Do you make the equipment yourself?

A Yes.

Q Are there various kinds of suction and aspiration equipment?

A Yes.

Q What are the various kinds, in general terms?

A In the surgical suite there are three kinds. Oneis a suction device or an aspirator which is an integral part of the anesthesia machine powered by the oxygen on the machine. The second could be a portable device to provide suction as required, and the third type could be suction that is provided by the wall outlets -- I should say outlets mounted in the walls or overhead on the circuit.

Q Now, at page 20 of the brochure from the Ohio catalog, an anesthesia machine accessory, there is a thing called an anesthesia suction meter. Is that one of the suction devices you have been referring to?

A Yes, that is theunit s I mentioned was a part -- an accessory, part of the anesthesia machine itself, and it is powered off the gases on the machine.

Q I see.

Now, are suction units other than those which are part of the anesthesia machine used in the surgical suite by anesthesiologists?

A I'm sorry, I don't quite understand the question.

Q I gather that anesthesiologists use a suction unit such as this?

A That is correct.

Q -- which is a part of the anesthesia machine?

A Right.

Q Could they use a portable suction -- piece of suction equipment instead of one attached to themachine?

A Yes, that is what I was referring to before.

Q And that can be used and is used by anesthesiologists in surgery?

A Yes.

Q Would that also be true for the pipeline suction equipment?

A Yes.

Q Now, who besides Ohio makes suction equipment of all of the types that you have mentioned that can be used by anesthesiologists?

A Well, I think you have to break it down into three categories.

Q Go ahead.

A The first category, that which is a part of the anesthesia machine, is available from all of the suppliers or manufacturers of anesthesia apparatus.

The second type, the portable unit, is available from people like Air **Shield, Gamco**, those are the two major ones that come to mind.

Now, the third one, the piped-in vacuum which is either installed in the wall or in the ceiling is supplied by the manufacturers of central piping systems.

Q Who are they?

A National Cylinder Gas Oxequip.

Q Do you happen to know what function suction performs for the anesthesiologist in the operating room? Why do they do it?

A Mainly to maintain a clear airway at all times.

Q And why is that important?

A So that you can get a good exchange of gases for anesthetic purposes and life support purposes.

Q Now, I will just run through a list of a number of products here of relatively small dollar amounts and perhaps you can describe what they are.

A Georgia valve is what?

A It is just a simple valve that mounts on top of the anesthesia machine that permits you to exert higher than normal pressures to the patient's lungs through the bag.

Q Vernitrol thermometer.

A A thermometer mounted on the top of the so-called Vernitrol vaporizer, and it is required to do the necessary calculations to determine the concentration of anesthetic being delivered.

Q Regulators I believe you described this moning.

This items of replacement canisters, would that be for the CO_2 absorber?

A Yes.

Q Whistle Alarm?

A That is simply an alarm system that would alert the anesthesiologist if, for any reason, the pressure of the gas being delivered to his anesthetic apparatus drops below 12 pounts PSI.

Q Pipeline inlet and outlet, what does that have to do with anesthesia machines?

A Quite often the oxygen and the nitrous oxide is brought to the surgery through a central piping system as opposed to individual cylinders and it is the connection on the back of the machine to accept the hoses that run from the machine to the wall where the oxygen is piped.

Q The next item is Conducheck. What is that?

A Surgery is supposed to or should maintain a conductive situation at all times, it is a means of measuring the conductivity of the footwear that the surgical teams wears into surgery.

Q Is it used for administering gas for anesthetic purposes?

A No.

Q There is an item here for miscelaneous parts. Tell us what is included in that category?

A All the nuts, bolts, small adaptors and so forth that will tend to satisfy the individual demands or needs of the anesthesiologist.

Q Are they used for actually administering the gas for anesthetic purposes?

A No.

Q There is an item for dental parts here. Can you tell us what they are?

A No, I can't.

Q And a flex adaptor.

A No, I have no idea.

Q What about Jackson tubes?

A It is just a variation of an endotracheal tube, a specific design.

Q The connectors referred to here, can you tell us what they are?

A A connector is the metal fitting that goes at the fitting of the endotrachael tube.

Q What is a non-breathing valve?

A It is a valve which permists just a one-way flow of the gases. In other words, the patient inhales and his exhalation goes to the atmosphere and not to the machine.

Q Miscellaneous Endo?

A That would be miscellaneous endotrachael tubes and fittings.

Q There are two categories called vet miscellaneous and vet accessories, are those referring to veterinary?

A Yes.

Q What are inhaler retainers?

A Simply a rubber strap that holds the face mask on the face during surgery.

Q The next item here, actually, quite a large one, disposable anesthesia breathing circuits.

Now, I believe there is a brochar from the Airco catalog so entitled, and this is it. Would you explain to the court what that item is?

A Well, as the name implies, it is a disposable version of the so-called breathing circuit that is employed in every inhalation anesthesic circuit. In this case we had one additional feature to it that is not normally found in the reusable. We have the traditional corrugated tubing that I described this morning, the so-called Y-piece, the rebreathing bag and in addition to that, we had what we call a filter which reduces contamination between patients using the same anesthesia. This whole system is disposable.

Q Does Ohio make that item?

A Yes, they do.

Q And of what substance is that made, is it rubber of plastic?

A Well, various materials. The bag itself is made of rubber, the tubings are polyethylene, the housing on the filter is polyvinyl chloride.

Q For how long have dispoable anesthesia breathing circuits been on the market in the United States?

A Five or six years.

Q Has there been some increase in the dales during that period?

A Yes.

Q Would you compare the rate of increase, please, the growth rate in the sales of anesthesia machines?

MR. THURMAN: Objection, your Honor. No foundation.

JUDGE BARNES: He can only testify here, I believe, to his own company's sales.

MR. KAPLAN: All right.

Q Limit it to Ohio, first of all.

A The growth overall of anesthesia, and I am stating everything except the disposable, might be running between 5 and 8 percent a year at most. While this has been running at the rate of 20, 25 percent a year.

Q Did you include more than anesthesia machines in the 5 to 8 percent category?

A Yes, it is a broader category.

Q Is there any special technology involved in making these anesthesia breathing circuits that would be availlable to anyone so inclined?

A You have to ^to^ have a general understanding of its use and more importantly, you have to have some technology in the field of plastics, injection molding, extrusions and so forth.

Q Are there firms outside of those manufacturing anesthesia machines, and for that matter disposable anesthesia breathing circuits that have the necessary technology to make those things?

A There are quite a number of people competing in this field, in the field of disposable andsthesia breathing circuits who do not make anesthesaid breathing apparatus.

Q Are there firms outside of those making these circuits today that have the necessary tehnology to make them?

MR. THURMAN: Objection. No foundation.

MR. KAPLAN: The witness is familiar with this technology. He just described it. I think he can tell us, if he knows whether other firms are capable of doing it.

JUDGE BARNES: Yes, he can.

Are there other firms capable of that technology?

THE WITNESS: Yes, your Honor, there are, as evidence of the number of people that have come into the marked in the last five years that are not in anesthesia equipment per se.

JUGE BARNES: The same procedure would be used on a number of products?

THE WITNESS: Correct.

Q How many companies are manufacturing disposable anesthesia breathing products today?

A At last count, between 12 and 14.

Q Can you name as many as you can think og?

A Air Products, Dupayco, 3 M, Flex Tube, Ohio, Foregger. There are a number of others.

Q Does Bard Parker?

A Yes.

Q What about Rusch?

A Yes.

Q How about ~~[illegible]~~ Pharmaseal?

A Yes.

Q Will Ross?

A Yes.

Q Does Anesthesia Associates?

A Yes.

Q Medicon?

A Yes.

Q Trilene?

A Yes.

Q Does Warne?

A Yes.

Q Inhalation Therapy Associates?

A Yes.

MR. THURMAN: I object to this. If Mr. Kaplan wants to read into the record who he thinks makes them -- he asked him about manufacturing and now he is saying they possibly manufacture them.

JUDGE BARNES: He is saying "yes."

MR. THURMAN: I am surprised he couldn't name them.

JUDGE BARNES: He named several. The testimony is proper.

Mr. Cosgrove, what is the purpose of disposable tubes, contamination?

THE WITNESS: Two reasons, your Honor. One is elimination between cross contamination between patients, and the other is the economics of it. High labor costs in the hospital today makes it uneconomical to clean and sterilize these circuits every time they are used. The studies have shown that it is probably more economical to throw it away before using a new one.

Q They always did guard against contamination before these came along, didn't they?

A After a fashion, yes.

Q Now, by the way, Mr. Cosgrove, do you have indication in the course of running your business to make an estimate as to what the size of the market in the manufacturing level is for these disposable anesthesia breathing circuits is in the United States in 1973?

A Yes.

Q What was your estimate for 1973?

A Our estimates were approximately $7-million.

JUDGE BARNES: What products are included in that?

THE WITNESS: This would be the complete circuit, in our estimate, with the mask as well.

JUDGE BARNES: And the bag also?

THE WITNESS: Yes. This is part of the basic circuit and the mask is sold as a separate entity giveing the anesthesiologist the choice, if he doesn't use the makk, he uses a tube in its place.

Q Mr. Cosgrove, what are H.A.S. tubes?

A I don't know.

Q What about conductive filters?

A There are a small number of filters that I mentioned that are sold independently of the circuit and this is just coming on the market now. There were a few sold in '73.

Q Is thedisposable anesthesia breathing circuit actually used for any -- for the administration of anesthetic gases to a patient?

A Yes.

Q The gas passes right through it?

A Yes.

Q What is the blood warmer that is referred to here?

A It is a device, in this particular case, it happens to be microwave, which warms units of blood, and these days it comes in a plastic bag as opposed to a bottle as it did years ago. It accepts a unit of blood and heats it to a pre-set temperature within 30 seconds and the purpose being that if you are in a mass transfusion situation, you don't want to subject the patient to any greater shock than he is probably in, by introducing say, six, seven, eight units of cold blood. You warm the blood and then introduce it into his body and reduce the amount of trauma or shock to his body.

Q Mr. Cosgrove, I am going to show you the specifications to the FTC subpoena to third parties in this case which I think is Commission Exhibit 316-A and I ask you to look ove the first page of that.

Now, Mr. Cosgrove, have you, in the course of your business, had occasion to make some estimate what the market at the manufacturing level for the equipment listed on Exhibit 316-A was in 1973?

A We have.

Q What was that estimate?

A We estimate the market to be approximately $36-million.

Q Now, did you include in that estimate dental nitrous oxide sedation equipment?

A We did not.

Q Did you include oxygen analysis or any other monitoring equipment in it?

A We did not.

Q Did you include portable or pipeline suction equipment in that estimate?

A No, sir.

Q Did you include veterinary anesthesia equipment in that estimate?

A No, sir.

Q By the way, do you happen to be familiar with some of the companies that make dental nitrous oxidation equipment?

A Yes, a few of them.

Q Can you list those that you know that make that equipment?

A NCG, McKesson, Fra~~z~~ser Sweatman, Dentatron, I believe Dupaco makes a version.

Q Does Star Dental ring a bell?

A I believe so, yes, they do make it.

Q Now, anesthesiologists, I suppose, use, in the operating room, during anesthesia, equipment other than that listed on Exhibit 316 and equipment other than we have talked about here today; is that correct?

A Yes.

Q Now, can you tell us the categories or some of the categories, those you know, that anesthesiologists use in the administration of anesthesia?

MR. THURMAN: Objection. No foundation. I guess, and he is going to talke about one anesthesiologist. Is he going to contradict what a man actually uses? We would like to know the basis for this.

JUDGE BARNES: Are these products that you make that you are going to be talking about now?

THE WITNESS: Not necessarily, your Honor.

MR. KAPLAN: Your Honor, I think we had quite a bit of foundation of Mr. Cosgrove's experience in observing surgery. Mr. Cosgrove as experience in selling to anesthesiologists and he is interested in the market of what might be of interest to anesthesiologists and he has had 40 years in the business.

MR. THURMAN: My goodness gracious. Why couldn't they get an anesthesiologist in to testify? Certainly calling in an anesthesiologist would not drain BOC's resources. They are trying to get it in through a non-professional with respect to what a professional medical doctor does. It is beyond the realm of my thinkigg. Let's go back to Mr. Topkis' best evidence rule. Certainly what an anesthesiologist is for a qualified man --

MR. TOPKIS: I am going to be driven to the defense of my best evidence rule if this doesn't stop.

JUDGE BARNES: Well, I think we have, you know, we have gone quite a ways here with Mr. Cosgrove's testimony and I do feel he has a knowledge of some products that are used, but I wonder how far you are going to go on this line now?

MR. KAPLAN: Your Honor, the general area I am interested in and it should be no secret after Dr. White testified, it is the area of monitoring. I think it is closely related to the products Mr. Cosgrove sells. We heard about respirometers, The AVC --

JUDGE BARNES: If you will ask him if he manufactures and makes those, is he familiar with them, and does he sell them, I think that would be proper.

Q Are you familiar, Mr. Cosgrove, with monitoring equipment used by anesthesiologists?

A Yes, sir, I am.

Q And are you familiar with diffesent types of monitoring equipment that perform different functions or monitor different things?

A Yes, I am.

Q What kinds of monitoring equipment are you familiar with?

A Monitoring the function of the heart, ECG, monitoring pulse, temperature, respiration. And in some cases, even, EEG.

Q Now, EEG is what?

A Electroencephlogram.

Q And ECG is what?

A Electrocardiogram.

Q Are you familiar with the term hypothermia?

A Yes.

Q What is it?

A It is where the temperature of the body can be either elavator or reduced above that which is experience at the moment by the anesthesiologist.

Q Is that done in surgical procedures?

A Yes.

Q Do you know why?

JUDGE BARNES: I think that is enough.

MR. KAPLAN: All right.

Q Do you know who is responsible for doing it? When it is done in surgical procedures?

A The anesthesiologist.

MR. THURMAN: We had testimony here by an expert M.D.

JUDGE BARNES: We did, and if Mr. Cosgrove testifies and contradicts the medical experts, I will give less weight to his testimony.

MR. THURMAN: I think he is trying to contradict Dr. Hedley White.

JUDGE BARNES: If he does then Mr. Kaplan will have a problem.

Q Do you sell blood pressure equipment as an accessory to Ohio anesthesia machines?

A Yes.

Q Why?

A Because the anesthesiologist uses it routinely, I would say almost in every general anesthetic given.

Q Do you sell equipment to monitor the patient's pulse as an accessory to the anesthesia machine?

A Other than when he is using a stethescope or something of that nature.

Q Now, I think you testified earlier that the anesthesiologist uses a respirometer to monitor respiration?

A That is correct.

Q Do anesthesiologists have any use for information about blood gas content?

A I'm sorry. Would you repeat that?

Q Are blood gas analyses done by anesthesiologists during the administration of anesthesia?

A Yes.

Q And is the equipment manufactured for the purpose of performing these analyses?

A Yes.

Q Does Ohio happen to make any of that?

A No, they do not.

Q What kinds of equipment are used in monitoring a patient's temperature?

A Well, the obvious one is the old-fashioned chemical thermometer, that is not used too often in anesthesia, but it is used. The principle way today is by an electronic device. A probe is attached to the patient at some location and it reads out digitally on a console usually mounted above the anesthesia machine or on a wall arm coming out from the wall in surgery.

Q Now, does that device have some name?

A Just a temperature monitor.

Q What about the monitoring of a patient's pulse, what kind of equipment is used for that?

A Pretty much the same -- the electronics are different but the read out is what we are talking about and you would get the same sort of a readout, you might get it in the form of a flashing light, an audible signal, or even a digital display.

Q I assume for electrocardiograms they use electrocardiographs?

A That is correct.

Q Now, Mr. Cosgrove, have you ever manufactured or assembled consoles or other pieces of equipment including, in addition to the anesthesia machine, various kinds of monitoring devices?

A Yes, we have.

Q And what kinds of monitoring devices were included in that piece of equipment, describe the piece of equipment for us, if you will.

A It has an overall housing about five feet long, about four feet high and about three feet wide, on which an anesthesia machine, hepothermia, suction, and various monitoring devices including the ones we have mentioned, pulse, temperature, respiration, ECG were also included in the total package.

Q Now, I assume you put your own anesthesia machine in there?

A That is correct.

Q Where did you get the monitoring equipment that you put on there?

A It was the equipment of choice of the hospital involved and we simply built our console to accommodate their equipment including the electronic leads and so forth which are involved.

Q I assume from what you said that that was a specially ordered piece of equipment?

A Yes.

Q For whom was it made?

A In Houston, Texas, for the group that worked for Dr. Michael DeBakey.

Q Is there today on the market a piece of equipment similar to that which you manufactured for Dr. DeBakey's group?

A Yes, one manufactured by Grumman at this time.

Q Is that Grumman, the aircraft manufacturer?

A Yes.

Q Do you have some special reason to be familiar with the Grumman equipment?

A Only that they incorporate some portions of our anesthesia machine and our ventilator in their equipment.

Q Now, we have talked about several kinds of monitoring equipment. Can you tell us from your own knowledge names of companies who make those items, monitoring equipment?

A Air Shield . Foregger, Beckman, **Hewlett-Packard**, ~~equipment~~ General Electric, DataScope, Statham, Electronics for Medicine, Berkshire, Burdick. That is all that comes to mind. It is a rather extensive list of people in this field.

JUDGE BARNES: Why don't you make them?

THE WITNESS: Your Honor, our technology lies in another direction. It has for years. It is a case of having to work very hard and spend large sums of money just to bring yourself up to the state of art that is being practiced by the other manufacturers.

JUDGE BARNES: Your technology deals mainly with what, supplying gases for anesthesia?

THE WITNESS: That is correct. We have a number of anceillary items which are electronic in nature but the broad range of monitoring equipment we have chosen to stay away from for the reasons I have just mentioned.

Q Now, let me see if your memory is refreshed as to other manufacturers of this monitoring equipment. Does Mennen Gray Bache make this equipment?

A Yes.

Q What about Electrodym?

A Yes.

Q American Optical?

A Yes.

Q Dallens Instruments?

A Yes.

Q Lexington Instruments?

A Yes.

Q Bio-Marine?

A Yes.

Q Abbott Medical Electronics?

A Yes.

Q You don't make all of the other kinds of anesthesia equipment that you sell either, do you?

A No.

MR. THURMAN: That is leading.

JUDGE BARNES: A leading question.

MR. KAPLAN: I am sorry, your Honor.

Q Now, have you had occasion to make some estimate of the size of the electronic monitoring equipment sales in the United States at the manufacturing level in 1973?

A Yes, we have.

Q What was your estimate of those sales?

MR. THURMAN: Objection.

JUDGE BARNES: The basis?

MR. THURMAN: The foundation. He is not in this equipment. It is away from his technology. Just to say he made it, we would like to know the purpose. There is no foundation.

JUDGE BARNES: Why did you make a survey in a field you are not inf

THE WITNESS: For the reason that it is such a large market, growing very rapidly and as part of the medical equipment market, as evidenced here, it is closely allied with the equipment we are selling, we have continually been monitoring this equipment to determine whether there is any reason for us to take another look at it. And so we have just been routinely watching the field and also tying it in with out own development.

JUDGE BARNES: You may give your estimate.

Mr. Thurman, you asked a number of people market estimates--

MR. THURMAN: People in the market. My goodness, he is out of the makket. He has no technology in that way. I think the cases are held, if you are in the market and competing, you know what your competitors are doing. But nobody knows what is related to their technology and they monitor the market, monitor monitoring machines.

JUDGE BARNES: He just explained that he did and the reason for it and he is on the fringe of the market, I guess you would say.

MR. THURMAN: Apparently he must have some studies. You keep figures on them day to day and week to week --

MR. KAPLAN: Just to call to mind a fact, Mr. Scott of Air Products whom I think the Commission has contended is the second largest anesthesia company, testified, he testified about his market studies, papercraft, we heard, and one of the components of his estimate of it, of the anesthesia market, was electronic monitoring equipment which this witness has just testified that company makes. It is a closely related field.

JUDGE BARNES: You may give your estimate.

THE WITNESS: My estimate at this time is $200-million.

Q Have you made an estimate of what proportion of that $200-million is monitoring equipment used by anesthesiologists in the administration of anesthesia?

A Our estimate is 20 to 25 percent.

Q Now, are you familiar with a piece of equipment called a blood oxygenator?

A Yes.

Q And what is it?

A It is a device which, in very simple terms, substitutes for a lung. In those cases where you want to completely shut down the heart and yet you still have to provide oxygen to the brain to sustain life so that in those particular cases you simply bypass the heart and the lung and you introduce the oxygent directly into the blood of the patient which is being bypassed through a machine and you oxygenate the blood, and at the same time you introduce the anesthetic agent at that level also.

Q The anesthetic agent is introduced in the blood oxygenator?

A In the blood oxygen.

Q Is it fair to say that the blood oxygenator is used for the administration of gas for anesthetic purposes?

A I would say yes.

Q Now --

JUDGE BARNES: You make this piece of equipment?

THE WITNESS: No, sir, we don't.

Q Have you observed this piece of equipment in hospitals and elsewhere?

A Yes.

Q Do you know who manufactures blood oxygenators?

A Co~~l~~be Labs -- I don't recall, frankly. We don't operate in this area of the field at all. That is one supplier I know of. I have seen them in operation.

Q You have seen the blood oxygenators manufactured by Bentley Laboratories?

A I'm not sure that I have.

Q Have you made some estimate of the size of the sales of blood oxygenators at the manufacturing level in 1973?

A I don't believe so.

Q Now, sir, earlier this morning we were talking about the marketing of anesthesia machines and we discussed the publications in which you advertised them, and the trade shows in which you showed them and whether you sell by dealers and representatives and so forth, with respect to the equipment listed on Commission Exhibit 316 and the other equipment we discussed up until we got to the area of monitoring. Would you tell us how that equipment is marketed, whether by dealers and so forth and how it is advertised, where it is shown?

A Are you speaking of the equipment shown on this exhibit?

A Yes. and the others of that nature that we talked about other than monitoring equipment.

A Primarily either on a direct basis or through a group of dealers.

Q And where is it promoted, if it is promoted?

A Well, it is promoted either inthe hospital itself by direct contact by dealer rep or the company's own rep. It is promoted through journal advertising, it is promoted through displays at the various technical conventions.

Q Are there different kinds of dealers who carry anesthetic equipment, both machines and the other items on Commission Exhibit 316-A?

A Yes, there are.

Q Will you tell us the different kinds of dealers?

A Well, there is first the so-called hospital equipment dealer. He would be selling a very broad range of hospital equipment and supplies ranging everywhere from sutures to bandages to anesthesia machines to perhaps monitoring equipment. In other words, a very broad range of products that might be used throughout the hospital as opposed to just the anesthesiologist.

Q Are there other types of dealers?

A Yes, dealers who concentrate on the more technical products. There are dealers who sell primarily to the anesthesiologist. They would sell anesthesia machines and othertypes of apparatus.

Q Specifically, what broad categories of equipment are typically carried by dealers specializing in selling to the anesthesiologist?

A You would have the anesthesia machine, of course, monitoring equipemnt, you would have respirators, and anesthesia ventiloaros. Probably hypothermia equipment. I can't generalize it that much. Maybe one dealer would carry a broader line than another.

MR. KAPLAN: Your Honor, at this point I would like to invite your attention to certain items in BOC Exhibits 228 and 232.

First of all, in 228, which is the program of the American Society of Anesthesiologists, at page 74 I would like to invite your attention to some of the scientific exhibits at that show. Specifically one headed "Continuous Monitoring in a High-Risk Neurosurgical Patient," the second headed "Left Atrial Pressure Measurements During and Following Cardiac Operations." Another one called "Continuous Monitoring of Mixed Venous Oxygen Saturation." Another one called

"Relaxant Monitoring: Diaphragm Versus Ulnar Twitch." Another one called "A New Non-Invasive Method and Monitoring Equipment for the Assessment of Cardiar Performance Before and During Anesthesia."

And then beginning at pages 86 and following, a list of technical exhibitors which included such companies as Perkin-Elmer, I believe General Electric, but your Honor can peruse that at your leisure.

In BOC RX 232, the Journal of the American Society of Anestheiologists, I invite your attention to a page -- I guess it is page 9, although not numbered, right at the beginning, it contains an ad for Foregger Electronic Monitoring Equipment. Four pages later, a blood pressure monitoring system manufactured by a company called Concept. Pages 20 and 21, Hewlett-Packagd and Bio-Marine Industries monitoring equipement, respectively.

Page 25, temperature monitoring equipment manufactured by Arbrook. Page 39, monitoring equipment manufactured by a company called Burdick.

Page 47, tracheostomy tubes from a company called Extracorporeal. Page 53, a Volumeter manufactured by North American Drager. Pages 64 and 65, equipment by various companies, Cincinnati Sub-Zero Products hypothermia equipment, equipment made by Robert Shaw Controls, the thermostat people, I think.

Page 73 monitoring equipment, I believe from something called Cardio-Pulmonary Instruments.

Finally, the inside back cover, something called the Datascope, monitors EKG and pulse wave.

MR. THURMAN: Your Honor knows our position on this. I suppose respondents purpose for reading this into the record is to have it doubly in the record so it gets double weight. I would think we can point out the page and your Honor can read it.

JUDGE BARNES: Well, it is very helpful to me what he thinks is important in this thick book. For all I knew he wanted me to read the articles in here.

MR. KAPLAN: God forbit.

JUDGE BARNES: It is helpful.

MR. THURMAN: I would think everything is important that is put into evidence.

MR. TOPKIS: Not on the basis of experience.

BY MR. KAPLAN:

Q Now, inviting your attention again to Commission Exhibits 316-A and looking at the products in the lttered categories here, are any of those categories interchangeable in their functions with the others?

A Well, I have to answer your question by putting it this way: I don't think you can interchange an airway for a vaporizer nor can you interchange a vaporizer for an anesthesia cart. You can't exchange an anesthesia cart for an endotracheal tube. They each have a very specific function.

Q Do changes in the price of any one of the items on page 316-A or Exhibit 316-A affect the demands or the supply or the price of any of the other items, except insofar as they may be components of the anesthesia machine?

A Yes, I think that has to be qualification. "here you are talking about some of these items which are components, obviously, the change in components could possibly change the price of the total unit. Other than that I would say no. I don't think there is much relationship between the pricing of an endotracheal tube and the pricing of an anesthesia sheild or between a disposable breathing circuit and the price of a vaporizer.

Q Are you familiar with the terms respiratory care and repiratory therapy, inhalation therapy, oxygen therapy?

A Yes.

Q And could you describe what you understand thoseterms to mean and the relationships, if any, between them?

A Using the term "repiratory care," first of all, that is the particular specialty in medicine which is concerned with the overall well being of the patient from the respiration point of view or from the breathing system point of view. That is a broader term as used today to describe the field which, a number of years ago, was called oxygen therapy, inhalation therapy and so forth. Today it is called respiratory care, respiratory therapy. It encompasses a great deal more than it did at one time.

MR. THURMAN: Your Honor, I would like to bring your Honor's attention to, if this witness would get up and start talking about legal terms and what the law meant, I am sure everyone in this room that is a lawyer would take exception. They would take exception as he is not qualified. I think the pride in the profession of medicine, you have to have a license to practice medicine and they would take the same exception for a layman to get on the stand and say what this means in medical terms.

JUDGE BARNES: If Mr. Cosgrove was a manufacturer or publisher of a legal publication he could certainly get up and testify with a great deal of authority as to how the books were developed and how the keynotes were made and what -- how they published textbooks on wills and they have different textbooks on real property. He couldtestify to that and he is doing the same here.

MR. THURMAN: I don't think he could talk about res judicata or the last chance doctrine --

MR. KABALN: We have all learned about papercraft.

MR. THURMAN: This has nothing to do with the equipment he is making. He is describing a medical term.

MR. KAPLAN: I think the question I asked was what this witness understood those terms to mean.

JUDGE BARNES: That is correct, and that is what it means to a man in the business of selling equipment.

MR. KAPLAN: I might add, by the way, your Honor, that Exhibit 316-B which is, after all, the subpoena that complaint counsel sent to companies, asked them to give their total sales of all inhalation therapy equipment. Now, if they didn't know what inhalation therapy equipment is and if they had no idea about that, I ask that we strike from the record the return from the exhibits and strike that.

MR. THURMAN: Repiratory care wasn't mentioned in that. If he has a section in his company pertaining to repiratory care, I would have no objection to him saying what that applies to. There is a section in their catalog as to inhalation therapy, certainly he knows what inhalation therapy is. He is not talking about inhalation therapy equipment and he is not talking about equipment. He is talking about what a term means, what a medical term means. The best source is from a medical doctor who has had many years of training.

JUDGE BARNES: We will let you proceed, Mr. Kaplan.

MR. KAPLAN: I have no intention, of course, of going into the medical aspect of this.

BY MR. KAPLAN:

Q You have sold equipment in that general area that you have just talked about for some years, I take it?

A That is correct.

Q For how long?

A I would have to say ever since I came with Ohio Medical Products, which is 23 years, and the product line was there when I arrived, so they had to be selling it before that.

Q Now, I think we can make somewhat faster progress with this part of the subpoena or this stipulation.

There are a number of items here described as reppirators of one kind or another, pediatric respirator, a general medical respirator, and so forth. In general terms, what are respirators?

A A device that is used on the patient who is having respiratory difficulties. The purpose is to aid him in breathing. Nommally it is for longer periods of time than just a few minutes or an hour.

You are talking about from a day to a week to even a year.

Q Is it the same thing as a ventilator?

A No, it isn't. A ventilator as used in the medical profession is identified with anesthesia, it is an anesthesia ventilator. Its paramters or its function are more limited than the respirator.

Q I noticed this pediatric respirator item, is that a specialized piece of equipment for children?

A It is simply a scaled-down version of an adult respirator to take care of the very small volumes and the very highly sensitive circuits that are required for the distressed newborn or a distressed pediatric.

Q Who else makes pediatric respirators besides Ohio?

A Bourn~~e~~ is the other one in this country.

Q Now, prior to 1973, did Ohio sell respirators other than those manufactured by itself?

A Yes, we sold a respirator that was manufactured by Monahan Company of Denver.

Q And do you still do so?

A No, we do not.

Q Now, what are nebulizers and humidifiers?

A They are devices which will generally hold water, which is added to the therapy being administered to the patient, either oxygen or air, to humidify the air or oxygen going to the patient so the mucous membrane of the throat and pharanx aren't dried out.

Q Do they have anything to do with the administration of drugs, either one of them?

A They can have. There are certain types or modifications of some others in which you can introduce a medication device to it so you can have not only humidity but you can have medication as well.

Q Are humidifiers and nebulizers used in conjunction with any other kinds of equipment?

A Other kinds of equipment other than what?

Q Not other than what, but other than standing alone?

A Yes, they are used with oxygen tents, they are used with respirators, they can be used for medication purposes with IPPB equipment.

Q Now, am I wrong in thinking that when I was a child perhaps when I had a cold, I had a room humidifier in the room sometimes?

A Yes.

Q I am wrong or am I correct?

A Yes, youre right.

Q Now, are room humidifiers for some range of application competitive with the humidifiers that you sell?

A They are a form of producing humidity which, sometimes is prescribed by the physician.

Q Are you familiar with hand ~~bulb~~ nebulizers?

A Yes.

Q What is that?

A It is simply a small hand-held device which will deliver medication to the patient either prescription or non-prescription.

JUDGE BARNES: Do you sell these room humidifiers or bulb nebulizers?

THE WITNESS: No, sir, we don't.

Q Can you tell us some of the companies who manufacture the hand bulb nebulizers?

A Breon, Riker, Winthrop, those are three I can think of offhand. All of whom are pharmaceutical houses.

Q What about Devilbiss, do they make one?

A Yes.

Q Do they make any other kind of nebulizer?

A They make an ultrasonic device. They make a whole range of various types of humidification equipment used in the hospital field but they are best known for their ultra sonic nebulizer.

JUDGE BARNES: Let's take a ten minute recess.

(Recess.)

JUDGE BARNES: On the record.

BY MR. KAPLAN:

Q Mr. Cosgrove, I show you Commission Exhibit 330, and beginning at page 330-E, pediatric respirator, I would like you to go down this list right through the end of the exhibit and state whether each of these products is used for the administration of gas for therapeutic purposes.

A Pediatric respirator, yes, it is.

General medical respirator, yes.

Cystic fibrosis nebulizer is not used for what we would call respiration therapy.

Deluxe heated nebulizer, yes; oxygen humidifier, yes.

High volume nebulizer, yes. Deluxe nebuliser, yes. Lytport I, yes. Lytport III, yes. Emergikit II, yes. Panel mounted resuscitator, yes. Demand Back-Pak resusicator, yes. E & J Back-Pak resuscitator, yes. Hand resuscitator - Adult, yes.

Neonatal Intensive Care center, portion of it are for the administration of gas. Hand resuscitator - Pediatric, yes. Portable emergency Oxygen units, yes. Hope emergency resuscitator, yes.

Cylinder trucks, I would have to say that is indirectly, it is something for the conveyance of cylinders itself.

Kreiselman stands and carts, yes. Bassinets, yes. Pipeline resuscitators, yes. RIA-state, yes. Micro Dapters, yes. Emergikart, yes. Inhalation therapy delivering tube, yes. Disposable, pediatric and adult face masks, yes.

Disposable K-S masks, yes. Permanent Midas masks, yes. E & J Midas masks, yes. Inhalation therapy flowmeters, yes.

Nasopharayngeal catheters and cannulae, yes. Oropharyngeal airways, yes. Bottles, 800 cc unbfeakable, no. Overflow safety trap with regulator fitting, no. Overflow safety trap with adaptor fittings, no. Adapters and fittings, I would have to say here it is a rather broad category, all of it is associated with respiratory therapy but certainly not directly.

Q When you say not directly, do you mean directly nonassociated with the administration of gas for therapeutic purposes?

A It is something that might be affiliated with the equipment in some way. Yokes, handscrews and valves, indirectly, much the same as adapters and fittings.

Q When you say "indirectly," what do you mean?

A You need handscrews and so forth to open cylinders. You need yokes to mount a cylinder of gas. So I would have to classify it with adapters and fittings.

Q Is it actually used to get the gas into the patient?

A It is part of the total yoke, yes.

Therapty respirometers, in the context in which you have described it, we would have to say no. It is a means of measurement but it isn't something which is actually a part of administration.

Bacteria filters, yes. Tracheotomy tubes, yes.

190A Care-ette, administration of gases are part of the overall system in this particular case.

Q Does it do other things?

A Yes.

Q What else does it do?

A It provides a clean atmosphere, humidity and warmth to a newborn infant.

Q Is it always used to administer gas or is it sometimes used for other qualifies you have described?

A It could be used for some of the other purposes I have described.

Q Is that also true of a neonatal intensive care unit?

A I believe I mentioned that it had other applications. This may be one of them.

MR. THURMAN: Your Honor, we have two copies of an exhibit and page 6 is missing from both of them. We woul like to borrow a page 6, if we can.

MR. KAPLAN: Come over here and stand here.

A X-4 incubator, again, it has other purposes than just the administration of gases, but it has a potention for the administration of gases.

X-P incubator, Servo-care incubator --

Q Do all the incubators perform the same functions as the Care-ette you described before?

A Yes, they are modifications on the incubator principle.

Model 350 tent, yes. Model 351 tent, yes. Pediatric mist tent, yes. Pediatrial aerosol tent, yes. Hand-E-vent with compressor, yes. Hand-E-vent pipeline model, yes. Hand-E-vent cylinder model, yes.

Q Is a hand-E-vent an IPPB device?

A Yes.

Q While we are on that subject, are you familiar with the Riker Medi-haler about which there has been some testimony in this trial?

A Yes.

Q Are there other products similar to the Riker Medi-haler with which you are familiar?

A Yes, there are several other models on the market.

Q Who are the manufacturers of those?

A Mine Safety.

Q Any others that you can think of?

A No.

Q Does Winthrop Laboratories --

A I mentioned them before, yes.

Q Brion?

A I mentioned them before.

Q Fine.

A 3000 System, no. You were specific in mentioning therapeutic.

Q That is right.

Now, have we come to a group of products which is used for some purpose other than the direct administration of gas?

A Yes.

Q What are the products in that group and what do you refer to the group as?

A This is what we call a pulmonary function testing equipment.

Q Before we get into that, what are the products on this exhibit that fall into that category?

A The 3000 system, 2822, 2200 systems, 2300 systems, DLCO system, 842 Spirometer. odel 410 CO_2 absorber. Model 600 pneumotachs. Model 700 gas analyzers. Model 840 spirometer, model 910 integrator. Pulmo-Digicomp. Normal valse indicator, model 22- I'm sorry, Model 822 spirometer, readout devices, data displays, and that is the end of that category which we classify as pulmonory function.

Q What is pulmanory function equipment?

A It is a whole series of products which will analyze the lung function to determine the impairment of the lung or the patient's ability to properly exchange gases in the lung and by using various types of this equipment that I just mentioned, you can determine the severity and type of impairment so you can come up with a measurement of therapy.

Q Is it marketed to the same group of physicians, generally speaking, as other equipment you have been discussing, the therapy equipment?

A Yes.

Q And are the methods of marketing and promotion and so forth, similar?

A Yes, we have to break it down.

Q Are they advertised in the same media?

A No, they are not, necessarily. They can be. There is a crossover here between the rest of the respiratory care products and this. This particular group of products are going to a little more specific group of physicians interested in respiratory care. The diagnosis respiratory products.

Q Is the equipment shown at the same trade shows, some of them?

A Some of them, and some of it. Certain items are shown at the respiratory care meetings, some are shown at other types of meetings.

Q Now, pick up with the list where we left off and the question for the record is, whether the equipment that you discuss is used for the administration of gas for therapeutic purposes.

A Servo power pak, no. Power pak transport, no. Accessories - Transport, our classification is the transporting device, a cart device for a transport incubator and it is certainly not connected with the administration of gas.

Overhead shelf, no. Gas service console, it is, only to the extent that is is an overhead means of delivering the gas in a premature intensive care area. It is installed in the ceiling and it provides oxygen and various other services to incubators.

Q Is that part of a medical pipeline system?

A That is correct.

Phototherapy shelf attachment, no. Miscellaneous incubator parts, no. Miscelaneous oxygen parts, miscellaneous industrial resuscitator parts --

Q What is your answer on oxygen?

A Yes. I'm sorry. Miscellaneous resusitator parts, yes. Cylinders industrial, I would have to say no. It is simply a container for gases.

Oxygen therapy regulators with Bourdon gauge, yes. Nebulizer heater, yes. Oxygen regulator with PC flowmeter, yes. Humidipump. that is a device which provides compressed air for various items that were mentioned above. It is a means -- it does actually produce the gas that is being delivered to the lung.

High pressure air compresser, I guess it falls in the same category as the above.

Neonatal accessories, only that they are connected with incubators. I can't tell by the category whether they are associated with the oxygen administration portion of the incubators and so forth or not.

Q Fine, thank you.

MR. THURMAN: Your Honor, our copies, as I say, do not have page 6. We were not observant enough to notice that we did not have a page 6. I notice by our markings on the document, CX 330-A through G which would not include page 6. So, if the copy went into the record and did not include page 6, we would respectfully submit that a copy should be put in the record in that particular exhibit.

JUDGE BARNES: All right. You will be responsible for checking the docket copy then and substituting the proper exhibit.

BY MR. KAPLAN:

Q Mr. Cosgrove, do you market -- let me preface that.

Let us refer to the equipment you just read off other than the pulmonary function equipment for the moment as inhalation therapy equipment for our purposes here today.

Do you market that through dealers or directcly or both?

A Both.

Q Are there companies in the field who do it all one way or the other?

A No. I would say all the companies in the field either market it directly or through dealers.

Q I am not sure you understood what I said. I said are there companies who market exclusively through dealers or direct.

A No, they sell either through dealers or direct. In other words, they use both means.

Q All of them?

A Yes.

Q Is that true in the anesthesia field as well, or are there companies in the anesthesia field who market exclusively through dealers or exclusively directly?

MR. THURMAN: I think he ought to ask him how they do it rather than testifying himself.

JUDGE BARNES: I think he is getting very spec. Perhaps this question is proper in the way it was asked.

Do all manufacturers use both ways?

THE WITNESS: Not all manufacturers, your Honor. There are some cases where --

A You asked about anesthesia?

Q Yes.

THE WITNESS: There are some manufacturers who go only through dealers.

Q Can you think of any offhand?

A No, I can't.

Q Now, have firms entered the last 10 years the production of inhalation therapy equipment as we are using the term here now?

A Yes.

Q How many?

A I don't know. According to our category of inhalation manufacturers and suppliers, there are a total of something like 59 companies in the market today and a number of them have been recent entrants but I cannot give you another.

Q Have any gone out of the business in the last five years?

A Not to my knowledge.

O Have companies entered the manufacture of anasthetic equipment and accessories or one or the other in the last five years?

MR. THURMAN: As I recall, that question has been asked and answered previously in this record.

MR. KAPLAN: Accoridng to my notes, your Honor, it has not.

If it has been answered, I apologize but we could spend less time if we just got the answer.

JUDGE BARNES: Yes.

A Have there been any companies that have been manufacturers of anesthesia equipment or accessories that have entered the market in the last five years?

Q Let's take ten years.

A Yes.

Q How many of those?

A Drager and Dupaco.

Q In answering have you directed your attention to anesthesia m achines?

A Yes.

Q Have companies begun manufacturing anesthesia accessories in the last ten years?

A Yes, quite a number of them.

Q Can you estimate for us how many?

A No.

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Q Have any companies left that field in the United States in the last ten years?

A I don't think I can answer that.

Q Inviting your attention to Exhibit 316B, Commission Exhibit 316B, the second page of the commission subpoena specifications, I will ask you the same questions I asked with respect to the page.

First of all, are -- looking first at the lettered categories, are any of those categories of equipment suitable for any other categories?

A The only area where there might be some substitution, where it would be possible to tell from this one between letter A --

Q Ventilators and so forth?

A Yes -- No, I withdraw that.

I was reading this as other respirators. I would have to answer no.

Q Now, do changes in the price of any of those lettered categories cause changes in the demand, supply or price levels of any of the other categories except insofar as they may be components of larger pieces of equipment?

A The only possible area might be where you are going to group a number of these products such as oreforengeal or nasoforengeal, other types of airways and so forth, that possibly pricing up or down on one of those may have effect on the balance of one of those particular products.

Q That is where they are grouped?

A Yes.

There is a certain grouping in here of these categories.

Q What is the grouping that you are referring to?

A Catheters, airways and so forth, tracheotomy tubes, they seem to represent a single category within here.

Possibly theremight conceivably be companies that are manufacturing a whole line, offering that whole line of products and it could be possible that they would --the pricing on one could have some effect on the other.

Q As far as youknow is that true or not?

A As far as I know -- I would have to answer it this way.

I don't know that it is true. I am just surmising that it could be.

JUDGE BARNES: The disposable and reusable, the prices -- the pricing of one might affect the sale of the other?

THE WITNESS: Yes.

There obviously is a relationship between the price of a reusable and an -- a disposable item anywhere in this line.

Obviously, if the price of the disposable goes too high, it starts to become more economical for the customer to buy the reusable, obviously, and the reverse is true.

If the disposable goes down, they might go from the reusable to the disposable and I think the same thing holds true for those products here.

Q Apart from that grouping of products you just testified about, catheters and airways, are there any other areas on that Exhibit 316B where there are pricing relationships that are --

A No.

Q Do you advertise your therapy equipment?

A Yes.

Q And in whatmedia do you advertise them?

A Through several of the major journals, respiratory care, the Journal of Inhalation Therapy Technology.

I believe they just changed the name of their journal.

Thoe are the two major journals in the area of respiratory care.

Q Arethere other journals with which you are familiar in that field?

A Those are the two major ones I am familiarwith.

Q Mr. Cosgrove, I show you BOCRX 230, 231, 247, 248, 249, 250, 251 and 252 and ask you if you are familiar with those publications.

A Yes.

One is Respiratory Care, which I mentioned and the other one was Inhalation Therapy Journal which is -- which has been updated in terms of name.

They renamed it since the date of that issue.

The third one, Respiratory Therapy, I think is the substitution for the earlier one, Inhalation Therapy.

So what we are looking at are the two major journals I have described.

Q Now, do -- have -- do Ohio and other firms selling inhalation therapy equipment advertise in those journals from time to time?

A Yes.

MR. KAPLAN: Your Honor, I offer them in evidence.

BOCRX 230, 231 and 247 through 252.

JUDGE BARNES: ANy objection?

MR. THURMAN: Well, yes, first, thepurpose.

I would like to know what the purpose is.

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We would stipualte that they advertise in these journals.

JUDGE BARNES: Well, who is "they"?

If you would sit down, you probably could have stipulated three quarters of the case.

MR. KAPLAN: There is no secret about the prupose.

It is the same purpose that we offered the other journals for.

While I might call your attention to one or two of these right now, we intend to submit in the brief a list that at the moment runs some 20 pages, simply listing names of companies manufacturing or advertising products in this field as to which there is no sales data in this record.

In short, we think complaint counsel have failed to prove no market here at all.

M R. THURMAN: What does that mean?

They put an advertisement in there. They might be selling through Ohio Products or something like that.

MR. KAPLAN: If Mr. Thurman is bent on th-s, we can take the witness through that 15-page list and ask him as to each company whether he knows whether they manufacture or not and what products.

I thought in the interest of time we would do it this way.

If Mr. Thurman insists, there is always the long way.

MR. THURMAN: I don't know if that would be admissible.

The witnesses are from companies who do this. We called people from everybody in the gases market.

We could call one person and have them testify as to what all these companies did.

We could call Linde and have him testify --

MR. KAPLAN: Youcalled Linde and asked them what per cent of the market the top four had and what per cent the top eight had.

I don't know how in the world they knew anything about that if they didn't know what their competitors were doing.

We objected to it and we claim it is error.

JUDGE BARNES: Just because Mr. Thurman said, just because there is an ad in here, it will have very little meaning in the over-all case.

I think what you should consider doing is getting the sales figures of these people in the record, whether they are manufacturing t-eir own or importing or merely distributors.

Whether their sales are substantial or not this is something I would not know by looking at the magazines.

I can receive the magazines for whatever they are worth.

I think they hav some relevance to the case.

MR. THURMAN: Are these the two magazines on which the witness spoke?

It seems like there are more than two to me.

JUDGE BARNES: He has Respiratory Therapy, Respiratory Care and Inhalation Therpay.

Those are in this group of magazines.

M R. THURMAN: It seems to me like one each would suffice.

I don't see why we need a bunch of magazines in the record.

JUDGE BARNES: I will receive in evidence Respondent's BOCRX 230, 231, 247 through 252.

(Documents referred to marked Respondent BOCRX 230, 231, 247 to 252 in evidence.)

MR. KAPLAN: Your Honor, I will just take a sample of some of theseads from those journals and ask the witness about them.

BY MR. KAPLAN:

Q Are you familiar with Bendix Corporation?

A Yes.

Q Do they manufacture equipment for the administration of oxygen?

A Yes.

Q Are you familiar with Blout, Inc.?

A Yes.

Q They manufacture nebulizers?

A Yes.

Q Are you familiar with Bivona Surgical Instruments?

A Yes.

Q Do they make something called a Kayman Wilkinson tube?

A Yes.

Q What is that?

A It is a specially designed tube for the administration of either inhalation therapy or it can be used in anesthesia.

What makes it unique and different is that it is made out of a special silicone material.

That is their main expertise.

Q Are you familiar with the John Bunn Company?

A Yes.

Q They make oxygen tents?

A Yes.

Q Are you familiar with Everest~~ard~~ and Jennings?

A Yes.

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Q They make IPPB machines?

A Yes.

Q Do they make other products in the medical field, by the way?

A Yes.

They are originally in this market in wheelchairs and stretchers.

Q Would you call them a substantial company?

A Yes, very.

Q Are you familiar with General Electric?

A Yes.

Q Do they make blood-gas monitoring equipment?

A Yes.

MR. THURMAN: I think properly he ought to ask him what they make.

JUDGE BARNES: If he asked what General Electric made we would be here for an hour.

MR. THURMAN: In the relevant areas.

MR. KAPLAN: For your Inofrmation, Mr. Thurman, I am directing my attention to products advertised in these journals as to which you expressed some doubt --

MR. THURMAN: I hate to harp on this.

I can sit up there and could have seen that journal, and say yes, they do this.

Whatdoes that add to this record?

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JUDGE BARNES: I think Mr. Cosgrove has seen it more than just in the journal.

MR. THURMAN: Hehasn't stated that he has.

JUDGE BARNES: Youcan ask him on cross-examination.

I think I told Mr. Kaplan a little earlier that I am not sure how much this is really adding to the record.

We don't have any sales figures.

MR. KAPLAN: I don't propose to go much longer, but as far as sales figures, it seems that it is complaint counsel's b urden to prove what the market share is.

JUDGE BARNES: All right.

Q Are you familiar with LKW Medical?

A No.

Q Are you familiar with Engstrom?

A Yes.

Q What do they make?

A A respirator.

Q Are they sold in the U.S.?

A Yes.

Q Are they made in the U.S.?

A I think they are Swedish.

Q Have you ever heard of Liquid Carbonic?

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A Yes.

Q Do they make anesthesia or respitatory care products?

A They have a complete line of them.

Q Lytton Medical-Electronics.

Are you familiar with that firm?

A Yes.

Q Do they make monitoring equipment used by anesthesiologists?

A Yes, plus a number of other things in the medical field.

JUDGE BARNES: Do they have a trade name they use?

THE WITNESS: No.

They manufacture and distribute under thier own name.

They are in the inhalation therapy and respiratory care field, and they do sell a certain number of products in the anesthesia field.

Q Are you familiar with --

MR. YOUNGWOOD: Would the reporter read back the name of the compan y after Liquid Carbonic?

MR. KAPLAN: There wasn't any. It was Lytton Medical.

Q Are you familiar with Mine Safety Appliances?

A Yes.

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Q[What do they make in this field?

A IPPB equipment.

Q They make IPPB equipment?

A Yes.

Q Minnesota Mining and Manufacturing, do they make any equipment in the fields we have been talking about today?

A They make disposable tubing.

Q Teledyne Analytical Instruments, are -ou familiar with them?

A Yes.

Q What do they make?

A Various types of monitoring and measuring devices.

Q Are you familiar with Victor Medical Products?

A Yes, but not that well.

Q Are you familiar with a company called Stephenson?

A Yes.

Q Whatdo they make?

A A respirator.

Q I think in the exhibits in this case there has been some reference to something called Entonox.

Do you know what that is?

A Yes.

It is a mixture of oxygen and nitrous oxide, in about a 50-50 proportion, that is premixed in a

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cylinder and administered for midwivery.

Q How is it manufactured?

Doyou know?

JUDGE BARNES: For midwivery?

THE WITNESS: Yes.

JUDGE BARNES: That is not a very big field in this country.

THE WITNESS: But it is in Great Britain and actually, it is a product that is used in Great Britain.

Q Who makes it in Great Britain?

A British Oxygen.

Q Is it a patended process?

A Yes.

Q Did you have some communication with BOC about that patent at some point?

A Yes.

Q What was the nature of that communication?

A They asked us if we would be interested in preparing the mixture and marketing it on the American markte with appropriate royalties to them.

Q Was a patent license discussed?

A Yes.

Q Was there any discussion between you and BOC about you buying Entenox in England and importing it into the U.S. for sale?

A No.

Q You mentioned some rescitators which -- when you read off from Exhibit 330.

Do you recall that?

A Yes.

Q To whom are they sold, what categories of customers?

A Well, two broad categories, one would be to the hospitals and the other would be to what we call the fire and safety field.

Q What do you mean by fire an d safety field? What kind of customers are involved there?

A Ambulances, emergency safety squads, emergency helicopter units, in-plant sales where they use the device perhaps in an area where they are working with nocuous and toxic materials.

That is generally the nature of the product sales.

Q Are your -- all of your rescusitators promoted and marketed to both markets equally or is one or the other directed to --

A Are you speaking about the hospital or fire and safety or within one of those two?

Q Two -- the two categories.

A Well, as far as the hospital, we promote and market through the appropriate journals.

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We show it at the hospital meetings and other appropriate specialty meetings.

We sell it either on a direct basis or through dealers.

In the case of the industrial version, I will call it, or the fire safety field, we will advertise through the appropriate industrial journals.

We market strictly through a group of dealers throughout the country who are selling other equipmentthat would normally be sold.

For instance, fire hoses, back packs, air packs and so on.

Q Are those dealers the same or different fromthose whom you market through --

A Very different.

Q Is one of -- or the other of the rescusitators listed on Exhibit 330 marketed to that police safety clientele in particular?

A Yes, the ones that wecall Lytport 1. The Lytport 3, the demand back pack resuscitator, E&J back pack resuscitator.

Those are the major items that would be sold in the fire an dsafety field.

Q I see.

JUDGE BARNES: Of those that you have just named, 17 do you sell the sameones to the hospitals?

THE WITNESS: Your Honor, it is actually a variation on them.

They are used in a different manner. The same principle might be involved but it may be packaged in a box-- a container which makes it very portable and which the fireman, the rescue squad, can move rapidly to the scene of a disaster as opposed to a hospital where perhaps you don't have to transport the cylinders themselves becase you have piped oxygen readily available.

MR. KAPLAN: I have no further questions.

MR. NICKEL: Your Honor, you indicated yesterday that the Jencks Act requirements are a two-way street and at this time I would like to ask for any Jencks materials that counsel may have for this witness.

MR. KAPLAN: Your Honor, there are some communications between Cosgrove and our office.

Some are in writing and we decline to produce those on several grounds.

First of all, we are jointly in this case, defendants with Airco.

Airco's attorneys and we have been working jointly in defense of this action and communications from Mr. Cosgrove to our office are covered by client-attorney privilege.

If your Honor would care I would cite for that proposition, Rule 503B of the proposed rules of the federal evidence and I can cite case law to the effect that client of one defendant can communicate in a joint defense situation in a privileged matter with counsel for co-defendants.

Further, as your Honor knows, we took exception yesterday with respect to the application of the Jencks Act and finally, whatever communications thare are in writing between Mr. Cosgrove and our office are material prepared in anticipation of litigation and are privileged for discovery with respect to Rule 26 of the rules of civil procedure and the principle of Hickman against Taylor.

JUDGE BARNES: Of course, I don't think they are privileged.

That went out with the Jencks statute that was passed.

Rule 503 is the attorney-client privilege.

MR. KAPLAN: That is correct, your Honor.

Privilege may be claimed by the client and they have to be communications seeking legal advice, which I think is at minimum,the communicationsshould be shown to me.

MR. TOPKIS: We would make production to your

Honor but I would hope that we are doing that without waiving the point that the Jencks Act is a two-way street.

MR. KAPLAN: And without waiving the attorney-client privilege.

I call your attention to the case of Hynudee versus the U.S. 355 Fed. 2nd 183, which held that a communication from one defendant in a lawsuit, a criminal case in that instance to an attorney for a co-defendant was privileged, U.S. Court of Appeals for the 9th District -- 9th Circuit.

JUDGE BARNES: All right.

Are these in Mr. Cosgrove's handwriting?

MR.KAPAAN: I am not sure.

Mr. Cosgrove, are these enclosures in your handwriting?

THE WITNESS: They are not.

JUDGE BARNES: Did you prepare thse?

THE WITNESS: No, I did not.

They were prepared by employees of Ohio Medical Products.

MR. KAPLAN: They were preparedfor the defense of this action?

THE WITNESS: Yes.

JUDGE BARNES: I don't think there is anything that would be of any help to complaint counsel in any event so I will return them to you.

MR. KAPLAN: Thank you, your Honor.

CROSS-EXAMINATION

BY MR. NICKEL:

Q Mr. Cosgrove, prior to today, did you attend any of the hearings in the case?

A Yes.

Q What days did you attend?

A I can't give you the dates but I attended what I call the medical portion of the government's case and the testimony that was given yesterday.

Q Do you recall which witnesses you heard testify?

A Which day?

Q In Washington.

A The complete testimony of the medical portion of this case.

Q Beginqing with Mr. Schreiber?

A Yes.

Q _Do you recall hearing the testimony of Dr. Hedley White?

A Yes.

Q Did you hear the testimony of Dr. Carpick?

A Yes.

Q Do you recall attending the hearings that entire week that those gentlemen testified?

A Yes.

Q And you attended the hearings here in New York yesterday?

A Yes.

Q Have you read any of the transcripts of the testimony given in this case?

A No, sir.

Q How does Ohio Medical Products go about introducing a new item of equipment in the inhalation anesthetic equipment and accessories field?

A First of all there is a certain amount of training, depending on the product itself, its complexity and so forth.

A certain amount of training that is done for our own salesforce.

A similar program could or would be established for our dealers if it is going to be sold thorugh a dealer.

Appropriate journal advertising is prepared and an appropriate convention display materials are prepared if we decide to put it through -- let's say, introduce it at a convention.

Q How would Ohio Medical Products go about manufacturing a new item? How would they design it and manufacture it?

A You asked me two things here, one about the design and one about the manufacture.

Q Let's start with the design.

A Well, the desing is, of course, the rsult of work done with the particular customer or application in question.

To determine what the real demand, the real need is and finally what the configuration of the product should be.

Our development group goes thorugh various phases in which the product is prototyped along which costs are continually monitored.

Then the prototype is usually tested in the field by selected clinical investigators, people that will do this sort of thing for us.

After the design has been frozen, the appropriate tooling is prepared, drawings.

Our economics which must accompany it are updated again.

A pilot run is then run through our plant, that is to prove out your production tooling and so forth and after certain modifications to production tooling and other modifications which may become apparent at that time, the product is put into regular production.

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Q Do you have a research and development group?

A Yes.

Q What role would they play in the design of a particular piece of equipment?

A They would be involved in interpreting the customer or the product need into the hardwear itself.

They would take the information develpped by our marketing group and, working in conjunction with them, would finalize the design of the product.

Q They would be working with the medical personnel?

A Yes.

In most cases we work very closely with the medical field in the design of the product.

Q Do you have any medical personnel on your staff?

A Not directly, no.

Q Are the designs of your pieces of equipmetn normally proprietary?

A I think theword normally has to cloud my answer a little bit.

There are some products which we design and market which obviously are proprietary.

There are others which, perhaps are similar to something already on the market which is patented or patentable whichwe feel there is a market for and therefore we do not have a proprietary product.

Q Do you hold any patentss with respect to your anesthesia machines?

A Yes.

Q What items do those patents relate to?

A Well, there are quite a number of patents and I don't believe I could give you specifics on that.

In other words, I don't believe that I can give you specific patents on particular items.

Q What do the patents relate to? Do they relate to specific items?

A Yes.

Q The design of specific items?

A You are talking about anesthesia now, yes.

Q What type of tecynology is required in the introduction of a new design of a new piece of equipment?

MR. KAPLAN: Your Honor, could we just limit that a little?

I am sure it depends on what type of equipment you are talking about.

Q Let's start with anesthesia machines.

A Well, there has been -- there has to be a gasic knowledge of gas dynamics, how gases react in a system.

There has to be a knwoeldge of metallurgy because of the castings and so f wth that are involved.

This is nothing that is terribly unique

or difficult to find.

I think any graduate metallurgist could probably supply that part of the technology required.

There has to be a knowledge of the action or the characteristics of some of the volatile agents we are working with at this time.

Q How about the medical application of the equipment?

A Yes.

Obviously there has to be a knowledge of that but we rely quite extensively on our contacts in the medical field, people in the larger centers, I am talking about the MD's now in the larger centers who work with us on the design of these products.

Q Would your answer be pretty much the same with respect to vaporizers?

A Yes.

Q What companies in the U.S. manufacture and market inhalation anesthetic machines?

A We have Foregger, we have Dupaco, Fraser Sweatman, Harris Lake.

Now, again I must ask for a qualification here.

Are we talking about human anesthesia, dental, veterinary anesthesia?

Q We will start with the human anesthesia.

A Now, you asked people that are manufacturing in this country.

I would have to include Drager in that list.

Q What companies marketing inhalation anesthetic equipment in the U.S. import that equipment?

A Well --

MR. KAPLAN: What kind of equipment?

MR. NICKEL: I said inhalation anesthetic equipment.

Q Human.

A In the case of Drager, North American Drager, I believe they import some portions of their machines and the rest is made here probably, includign he fabrication of the chassis.

Q Foriger -- North American Drager would be the only company marketing imported inhalation anesthetic machines for humans?

A I believe so.

Q You indicated that you make estimates of the sales of your competitors.

What is the total sales of anesthetic m chines in the U.S . in 1972 in your estimate?

MR. KAPLAN: I object.

At the outset of this case we specifically addressed a question to complaint counsel as to whether there was going to be any effort or reliance on sub-markets in this case and the answer was an unqualified no, an answer which has shaped the whole course of defense.

At this point to introduce that evidence into this record is highly prejudicial in light of that answer.

MR. NICKEL: My question -- my purpose in asking the question was to find out the gentleman's knowledge of the products.

He answered any number of questions on the products.

JUDGE BARNES: You may anwwer the question.

MR. KAPLAN: I assume, your Honor, it is accepted exclusively for the purpose which counsel just stated.

JUDGE BARNES: No.

I am not going to accept that for any limited purpose.

I will just accept the answer in the record.

A Could you give me that question again?

Q What is your estimate or Ohio's estimate of the sales and -- sales of anesthesia machines in the U.S. in 1972?

Wouldyou limit your anwwer to human machines?

A Approximately $10 million.

Q Of what amount, what amount is accounted for of the sales by Ohio Medical?

A I am afraid that --

MR. TOPKIS: That is stipulated, I believe, your Honor.

MR. KAPLAN: That is in Exhibit 330, your Honor.

JUDGE BARNES: It is in the record.

I think this is in camera too, isn't it?

MR. KAPLAN: Correct, your Honor.

Q What amount of the $10million is afcounted for the sales of anesthesia machines by Foriger?

A I am going to have to say 25 per cent.

I don't recall exactly.

Q What amount of that figure is accounted for by the sales of anesthesia machines by Dupay Company?

A It seems --

JUDGE BARNES: Human machines?

MR. NICKE:: Yes.

MR. KAPLAN: Of course, this is all in the record and I assume counsel is testing the witness in some other way.

This was all stipulated to, I belieive.

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MR, NICKEL: Previously all stipulated to when Mr. Kaplan asked these very same questions as to other items on direct.

JUDGE BARNES: I think some of the other items were not in the market.

MR. NICKEL: Some of them were, your Honor.

MR. KAPLAN: I didn't ask for the sales of any particular firm.

JUDGE BARNES: You had four companies -- how many companies did he name that manufactured these machines?

MR. TOPKSI: Five.

MR. KAPLAN: Five plus Ohio.

JUDGE BARNES: I would assume that would account for all of the market then.

THE WITNESS: Correct, a high percentage of it, yes.

JUDGE BARNES: All those sales figures are in, is that correct, Mr. Nickel?

MR. NICKEL: Your Honor, the only way I can determine this is-- whether this gentleman is capable of making estimates on any sales is to examine him.

JUDGE BARNES: For the purpose of testing his direct testimony.

Now, Dupaco Company --

A Was that the one you were talking about, Dupaco?

Q Yes.

A About ten per cent.

Q Frazer Sweatman?

A Less than five.

Q Harris Lake.

A Also less than five.

Q North American Drager?

A I don't recall.

Q Do you recall testifying that Ohio Medical sold approximately 2500 anesthesia machines in the U.S. per year?

A I said approximately that number.

Q How many anesthesia machines -- what year were you referring to?

A '73, I believe.

Q How many anesthesia machines wouldyou estimate Foriger sold in 1973?

A I don't think I could estimate that.

Q Dupaco?

A Again, I don't believe I can.

Q Frazer Sweatman, Harris Lake?

A No.

Q Drager?

A No.--

Q Do you remember testifying that the sales of these items had remained flat?

A Yes.

Q What companies in the U.S. manufacture dental anesthesia equipment?

MR. TOPKIS: You mean machines?

MR. NICKEL: Machines.

A Frazer Sweatman, N CG does not manufacture one, they market one. I think it is made by Porter Instruments.

Dentatron, Star Dental, McKesson.

Q What is Ohio Medical's estimate in 1973 of dental analgesia or anesthesia machines ?

A I don't believe we have an estimate of that.

Q What companies in the U.S. manufacture veterinarian anesthesia machines ?

A Foriger, Ohio, Dupay and I am not sure about Frazer-Sweatman.

Q Does Ohio have an etimate as to the total sales in the U.S. about veterinary anesthesia machines?

A No.

We don't sell in this market so we have never done any market work in this area.

Q How many vaporizers does Ohio Medical sell in 1973?

A The majority of the vaporizers we sold were an integral part of our anesthesia machine.

There can be more than one vaporizer per machine and therefore it is impossible for me to give you a number of the total number of vaporizers because I don't know without going back and looking at our records very carefully, the economics of vaporizers per machine.

Q How many vaporizers did Ohio Medical sell in 1973 separately from anesthesia machines?

A The only thing we would have sold separately would be the side arm and I don't have a sales figure with me that I can give you.

Q What percentage of the vaporizers sold by Ohio Medical in '73 would you estimate were accounted for by the bubble-through type of vaporizers?

A It would be a guess because we're talking about the simple number 8 and number 10 and I would say it is less than two or three per cent of our total vaporizers.

Q So Ohio Medical, is it the largest manufacturing distributor of human anesthesia machines in the U.S.?

MR. KAPLAN: What is largest?

JUDGE BARNES: Dollar sales?

A Did you say anesthesia machines?

Q Yes.

A I believe we are.

Q How long has Ohio Medical been the largest manufacturer and distributor in terms of dollar sales of anesthesia machines in the U.S.?

MR. KAPLAN: Can we limit that to manufacture, your Honor?

Bringing in distributor confuses the issue, your Honor.

Also, I think Mr. Nickel might have inadvertently left out the word human.

JUDGE BARNES: It is human unless otherwise specified.

A I would have to say that it has been a number of years and I can't be more specific because our data, market studies and so forth, 6, 7 and 8 years ago, were not all that accurate and the relative position of such a company such as Foriger, perhaps our data was not as good on.

As I said, we have several new entrances in the market in the last few years and the market is not all that large to begin with and so the entrance of these two people can cause a shift in the over-all market shares, quite dramatically.

Q I am not sure you are responsive to my question.

A I am not sure I was either.

Q I said, how many years have you --

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MR. KAPLAN: I will save the problem of responsiveness by objecting to it on the sedond go-round.

The question of how long Ohio may have been the largest manufacturer has nothing to do with the market share that complaint counsel put in this case.

They are trying to have it both ways, they are trying to show the human machines and now they are examining Ohio on the area they are strong in.

They picked the market, we didn't, and they are forced to live with it.

MR. NICKEL: I am not sure I understand the objection.

MR. KAPLAN: That is not relevant to this case.

MR. NICKEL: Of course it is relevant.

JUDGE BARNES: He previoulsy answered y our question by saying a number of years.

THE WITNESS: Yes, f or the reasons I suggested, your Honor.

Q What is Ohio's estimate as to the total sales of anesthesia equipment -- anesthesia vaporizers in the U. S. in 1973?

MR. KAPLAN: Once again, not to be obstructire, but at what level?

MR. NICKEL: I will start out by saying at the manufacturing level.

A I would estimate that probably about $4 million worth of vaporizers sold in this country.

Q That was at the manufacturing level or was that total sales?

A Total sales.

Q What about -- what would be your estimate as to the sales at the manufacturing level of vaporizers in the U.S. in 1973/?

A That is pretty hard for me to come up with that number because I don't know what the cost of manufacturing a goodly number of those vaporizers is.

Q I am not concerned with cost. I am only concerned with sales.

A Well, if youare going from selling price down to manufacturing costs, I have to have some idea of what thecost is.

Q If you will simply eliminate resales from the $4 million figure, that would be the figute I am after.

A I'm sorry, I still don't understand.

JUDEE BARNES: I believe his original answer, he intended that at the manufacturing level.

You did not intend to include sales by manufacturing to distributor and then the sales by distributors.

THE WITNESS: No.

Q Do you recall testifying on direct examination that Ohio Medical's competitors with respect to vaporizers were Frazer Sweatman, Foriger and North American Drager?

A Yes.

MR. KAPKAN: Of course, your Honor, that was not all, as I am sure you will remmember.

MR. NICKEL: Not all?

THE WITNESS: The ones I have named.

MR. KAPLAN: Those are among the ones Mr. Cosgrove named.

MR.NICKEL: I don't believe so, y our Honor, but I will give the witness a chance.

Q Who are your other competitors that sell vaporizers?

A You have Dupay -- name the ones you have first.

Q I am speaking of manufacturing and marketing.

Frazer-Sweatman, Foriger and North American Drager.

A And you have Dupay in there.

Q What percentage of that 4 million figure would you estimate was accounted for by Fraser-Sweatman in 1973?

A I would have to say probably half.

Q 50 per cent?

A Yes.

Q What percentage of the 4 million wouldyou estimate was accounted for by the sales of vaporizers by Foriger?

A I really wouldn't know.

Q No idea?

A No.

Q North American Drager?

A No.

Q Dupay?

A No.

You couldn't tell you about these.

Q Didyou include imports in the 4 million figure?

A Imports of vaporizers?

Q Yes.

A The 4 million digure that we used could possibly include something coming in with Drager, I don't know.

In other words, we look at this and we have done samplings of hospitals and we have to extrapolate.

We obviously have not been in 5700 hospitals in the U.S. and counted their vaporizers.

Because of the size of this market, it is pretty darned difficult to get a sufficient sampling to do any kind of very accurate measurement.

This is our best measurement.

It includes possibly some Drager vaporizers, I don't know.

Q On direct examination in naming the companies that

38 imported vaporizers you also mentioned Pen lon. Do you recall that?

A Yes.

Q Do you have any idea what amount of sales Penlon may have in the U.S.?

A No idea.

Q Do you know if they sell in the U.S., vaporizers?

A To the best of my knowledge, they do.

Q And what is the basis of your knowledge?

A Having seen some in hospitals.

Q You mentioned two other companies also that imported vaporizers, Soxil?

A Yes.

Q Do they sell vaporizers in the U.S.?

A They import.

Whether they sold any or not, it is an Italian firm and whether they have sold any quantity of it or not, I don't know.

Q You also mentioned a Brazilian firm that you believed imported vaporizers.

Do you have any idea of the amount of their sales of vaporizers in the U.S.?

A No.

Q Do you know whether they have sold any in the U.S.?

A I don't know.

Q Have you seen them in hospitals?

A We are talking about a vaporizer now as opposed to a machine.

I have never seen a tachio machine in this country and I have never seen a vaporizer either.

Q You also stated that Cyprane vaporizers were imported by BOC.

A I don't know whether my description of it is proper.

Cyprane is an English firm owned by BOC and they import their vaporizers in this -- into this country for distribution through, I believe, Frazer-Sweatman.

Q Do you know whether they import vaporizers separately from Frzer-Sweatman as well as through Frazer-Sweatman?

A I really don't know.

Q How many salesmen does Ohio have marketing their inhalation and anesthetic equipment and accessories?

A Approximately 73.

Q How many dealers does Ohio have?

A Upwards of 800.

Q Are any of those dealers exclusive dealers?

A In what sense?

Q That they sell only Ohio Medical's products?

A No.

40 Q How many service people does Ohio Medical employ to service the inhalation anesthetic equipment that Ohio Medical mawkets?

A I should correct you that we have a service organization that services not only inhalation anesthesia equipment but a broad line of equipment which I believe I described this morning.

So, they are not just servicing anesthesia apparatus but many, many other products and they are a total of 75 people involved in this.

I might mention also, this also is true in our response to you concerning the number of sales people we have in the field.

Theyare nto only selling inahlation anesthesia equipment they are again selling a very, very broad line of equipment.

JUDGE BARNES: Do the salesmen sell to the safety field?

THE WITNESS: No, they do not.

Q Just tomake sure I understand your response, you indicated of the 800 dealers Ohio Medical has,none are exclusive.

Does that mean that none of thse dealers carry products of your competitors?

A In some cases, yes.

But the way you phrase the question to me, I have the impression you meant do they handle only Ohio products and nobody else's products.

You didn't say competitige to ours and that is what -- that is the way my response was to that question.

Q Of those 800, how many do not carry the products of your competitors?

A I really don't know.

We have dealers that are handling both ours and competitive items and there are a number of dealers that handle only the Ohio and -- the Ohio anesthesia apparatus.

Q Would you say 50 per cent?

A I really would not like to estimate because I really don't know.

Q How much did Ohio expend on promotional advertising inhalation anesthesia equipment and accessories in 1973?

A I can't tell you. I don't recall.

We do break it down by various product categories but I don't have the figure with me.

Q Could you give us any indication?

A No, I can't and I am not trying to be evasive at all.

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The fact of the matter is that allotment of advertising budget shifts from year to year.

If I could say it is 2 per cent or 1 per cent every year, I would be happy to.

The fact of the matter is that a lot depends upon the introduction of new products and the general thrust of the promotion during a given year.

So, what we were expending on advertising dollars in 1972 on anesthesia equipment maybe a fraction of or many times that which we are spending the following year, simply because we are changing the direction of our promotional program.

Q Has Ohio ever donated any of its inhalation anesthesia equipment or accessories to medical schools?

MR. KAPLAN: What possible relevance does this have?

MR. NICKEL: It relates to advertising and promotion.

JUDGE BARNES: I would hope that would be the purpose.

MR. NICKEL: That is the purpose.

MR. TOPKIS: Have you ever given milk to a cat?

Is that the next question?

MR. THURMAN: I didn't find that funny.

Some of the things they have been putting in the record were very humerous to me.

I didn't think that was very funny.

JUDGE BARNES: If this is a way of promoting products, do you give equipment to medical students or schools?

THE WITNESS: It is not our policy to give away equipment to medical schools.

To say we have never given away equipment to a medical school, I am sure we hage but it is not a general way of promoting our product.

JUDGE BARNES: There have been a lot of headlines in the past few months that I am sure you are familiar with.

The establishment of a brand name is important though in selling these products.

THE WITNESS: I would say yes.

The establishment of a reputation over a period of time, yes.

JUDGE BARNES: And that reputation is reflected by the brand name?

THE WITNESS: Yes.

JUDGEBARNES: Is your product sold under the name of Ohio Medical?

THE WITNESS: Are we speaking of anesthesia equipment?

JUDGE BARNES: And the rest.

THE WITNESS: Generally speaking they are sold under the name of Ohio Medical Products.

Thatname appears on virtually every product we sell.

There may be a more specific name. On incubators we would use the name Armstrong because it is a specific line of incubator.

In rescusitation equipment we might use the name Kreiselman.

Rut at all times, Ohio Medical shows in the name.

BY MR. NICKEL:

Q Does Ohio Medical market any anesthetic agents?

A Yes.

Q Does Ohio -- or has Ohio ever advertised those ag-nts in the Journal of the American Society of Anestesiologists?

A Yes.

MR. KAPLAN: I don't knowawhat difference this line of questioning makes.

I object to its relevance.

MR. NICKEL: I am trying to show that

advertisements in this particular magazine don't mean anything as to relevant markets.

MR. TOPKIS: What?

MR. NICKEL: Any number of products are advertised in this particular magazine.

JUDGE BARNES: All right.

Q Has Ohio Medical ever advertised its anesthetic agents inthe Journal of the American Society of Anesestiologists?

A I believe I answered yes.

Q Did you attend the trade show that was held in October, 1973 at -- excuse me.

A Sure.

Q -- at the American Society of Anestesiologists?

A Are you speaking of I personally or Ohio Medical?

Q You personally.

A No, I did not.

I was in a hospital receiving a general anesthetic.

Q Did you receive an y reports --

MR. NICKEL: Strike that.

Q Did Ohio have any representatives at that trade show?

A Yes, they did.

Q Did they report to you on the exhibits shown at that trade show?

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A Yes, they did.

Q Did they report to you that there were exhibits at the trade show by companies in related fields as to anesthesia machines and accessories?

MR. KAPLAN: I object to that characterization.

What Mr. Nickel may mean by related and whether it is all one market, it seems to me is for your Honor to decide.

JUDGE BARNES: Can you rephrase the question?

MR. NICKEL: I am on cross-examination, not direct.

JUDGE BARNES: I don't know what you mean by related fields.

Do you mean related to therpay, anesthesia?

Q Did the employees that attended this trade show report to you on what was exhibited there?

A Yes.

Q Were there exhibits at that show by companies in areas realted to inhalation anesthetic equipment and accessories?

MR. KAPLAN: I object to that on several grounds.

First of all, RX228 has a full list of everything that was exhibiged in that trade show and that is in evidence.

JUDGE BARNES: I think if you have that program here you might go down the list of companies or something of that nature.

Let's be a little bit more specific.

MR. KAPLAN: If I may add one other point, it seems to me what Mr. Nickel's question is calling for is hearsay as to the characterization of various kinds of exhibits by employees who reported to Mr. Cosgrove and I can't imagine any more objectionable type of testimony.

MR. NICKEL: This exhibit is hearsay.

MR. KAPLAN: We are getting into double and triple hearsay then.

JUDGE BARNES: Ask him what he was told they were told.

MR. NICKEL: Perhaps we can call to your attention some of the items that were exhibited.

JUDGE BARNES: How will we know that?

MR. NICKEL: It is listed in the exhibit, BOCRX228 on page 94.

JUDGE BARNES: Mr. Thurman might object to your calling my attention to it.

MR. THURMAN: We are just following procedures we are learning from respondent.

MR. TOPKIS: If you would only get the best evidence rule down pat, we might make a lot of progress.

JUDGE BARNES: We are on page 94.

MR. NICKEL: About a third of the way down the page, Williams & Wilkins had a display on medical books.

Below that is Video Digest and they had a display on video tape programs.

JUDGE BARNES: One more company at the bottom of the page conducted footwear.

We will take a ten-minute recess or should we adjourn for the day?

MR. NICKEL: It might be a convenient stopping place.

JUDGE BARNES: Do you have quite a bit more?

MR. NICKEL: Yes, we do.

JUDGE BARNES: Off the record.

(Discussion off the record)

JUDGE BARNES: On the record.

BY MR. NICKEL:

Q Mr. Cosgrove, in what areas of the U.S. does Ohio market inhalation anesthetic equipment and accessories?

A Throughout the U.S.

Q In what areas of the country ~~does~~ the competitors of Ohio market anesthesia machines?

A To the best of my knowledge throughout the U.S. Also.

Q To your knowledge does Frazer-Sweatman and Harris

Lake market anesthesia machines throughout the U.S.?

A I believe so.

Q Does Frazer-Sweatman market vaporizers throughout the U.S.?

A I believe so.

Q Do you recall being asked on direct examiantion which companies had entered the marketing and manufacturing of anesthesia machines in the U.S. in the last ten years?

A Yes.

Q And you mentioned Dupay and North American Drager?

A Yes.

Q Did the BOC enter the marketing of anesthesia machines in the U.S. in the last ten years?

MR. KAPLAN: Maybe Mr. Nickel wants to define "enter" for this prupose.

Q Entering through acquisition.

MR. KAPLAN: This of couree is part of the record and I can't see that it goes to testing the witness in any way.

JUDGE BARNES: I believe he was asked about new entrants.

MR. KAPLAN: I have no objection.

Q Do you consider BOC to be a new entrant?

A N ot in the last ten years but I don't know their acquistion date or when they , entered the market.

As far as we are concerned, in recent years they entered the market by way of the Canadian market.

They were very popular, very strong in Canada and they are now in this country and when this happened, when they acquired in this country, came into this country, I don't know whether it was ten years ago or not.

The other two I have a firmer recollection as to when they came in.

I am sure it was in that ten-year period.

Q What company did BOC market inhalation anesthetic equipment, or let's limit that to machiens in Canada, through what company?

A Canox.

Q Through Canox they marketed anesthesia machines in the U.S.?

A No, I don't believe so.

Q Canox markets inhalation anesthetic machines in the U.S.?

A Not to my knowledge.

Q Mr. Cosgrove, I don't understand what you mean when you say that BOC entered the U.S. market through Canada.

Willyou explain that?

A Yes.

The ~~[illegible]~~ machine first appeared in North

America in the Canadian markt.

There wre many British trained anesthesiologists in Canada and that was where Ohio first encountered the Boyle machine, in Canox.

I am saying that after that it started to appear in this country through, as I believe, through Harris Calorific and I can't pin dwn the date as to when that actually took place.

Q Would you explain what the Boyle machine is?

A It is a British designed anesthesia apparatus which utilizes what is known at least in this country as a sort of tolley bar or a trolley configuration.

You have the basic yokes, regulators and flowmeters that I described this morning and the facility onto the mount separate vaporizers which are agents specific.

Q Just so I am sure, is it your testimony that the Boyle machine has been used in the U.S. in the last ten years?

A Yes.

Q When did Harris Lake enter the anesthesia equipment and accessories market in the U.S.?

MR. TOPKIS: Harris Lake?

MR. NICKEL: I'm sorry.

Q Harris Lake -- I dn't know the exact date.

Q You indicated on direct examination that the price range of Ohio's anesthesia machines was between 1 and $2,000.

A Approximately, yes.

Q What is the price range of anesthesia machines markeded by Foriger?

A I would have to guess that it is approiximately the same.

Q Frazer-Sweatman, Harris Lake?

A Probably would tend to be a little more bedause of the different design or configuraton of those machines.

Q Could you explain that, please?

A Well, the machnes, the range of machines we have gone from very simple so-called unit control up to what we call the top og the line which is the M5000 with the heated vaporizer principle.

That is a relatively expensive machine compared to the lower priced one which is most similar to the Boyle type.

Q What would be the price range of anesthesia machines marketed in this country by Dupay?

A Probably slightly lower than ours.

$1,000 on the low side and maybe two on the low side.

Q North American Drager?

A Probably about the same as Ohio's?

Q You mentioned on direct examinatinn the companies that manufactured rebreathing bags, do you recall that?

A Yes.

Q One of the copanies you mentioned was Sieberling.

53 JUDGE BARNES: That is the tire company?

THE WITNESS: Yes.

Q Is rebreathing bags the only item of inhalation anesthetic equipment and accessories that they manufacture to your knowledge?

A Yes.

Q Would you estimate their sales of rebreathing bags in the U.S. in 1973?

A I don't know because they are the original manufactur selling to other people who package and sell and their bags are going mainly into the disposable area.

Q To your knowledge they do not market themselves, is that correct?

A That is correct.

Q Another company that you mentioned was Oak Rubber Company?

A That is correct.

Q Rebreathing bags is the only item of inhalation and anesthetic equipment and accessories that Oak Rubber manufacturers?

A As far as I know, yes.

Q Do they market it themselves?

A No.

Q How does Oak Rubber, if you know, market rebreathing bags?

A They are simply an original manufacturer selling to other companies who package it alongwith other components and sell itto the hospitals and anesthesiologists.

Q Is that then in the same manner that Sieberling sells its rebreathing bags?

A Yes.

Q You mentioned that a company by the name of Franklin imported rebreathing bags?

A That is right.

Q How do they -- do they market rebreathing bags in the U.S.?

A I don't believe they do.

Q They market in the same fashion that Oak Rubber does?

A In this country.

Q You also mentioned a company by the name of Erbman.

How do they sell rebreathing bags in the U.S.?

55 A To the best of my knowledge they market the same as Franklin does in this country.

Q Also on direct examination you listed the companies that manufactured or sold conductive tubing in the U.S. Do you remember that?

A Yes.

Q One of the companies you mentioned was Medicon.

Is Medicon a subsidiary of C.R. Bard?

A I believe so.

Q Another was Flex Tubing.

A Yes.

Q Is conductive tubing the only item of inhalation anesthetic and accessories that Flex Tubing manufacturers and sells?

A To the best of my knowledge, yes.

Q Do you know how Flex Tubing sells its conductive tubing in the U.S.?

A I believe they sell it both ways.

I think they will sell a portion of their product through some dealers and at the same time they will sell to packagers, as it were people that will package it along with other components.

Q Could you estimate the sales of donductive tubing by Flex tubing to dealers in 1973?

A I have absolutely no idea.

Q Another company you mentioned as either a manufacturer or marketer of donductive tubing is Pharmaseal.

Is that a subsidiary of American Hospital Supply?

A Yes.

Q You indicated that there were approximately 14 companies that marketed and sold -- marketed conductive tubing in theU.S.?

A That is correct.

Q Was it your testimony therewere 14 companies that manufactured conductive tubing?

A And sold.

Q Where did you get that number?

A Where?

Q Right.

A I think we actually were able to identify most of them as I recall.

Q I believeyou were able to identify 8, and then you stated there were 14.

A That is right.

Somewhere we have a list of peqle that are in the market as of today.

And it comes up to something like 12 to 14.

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Q What kind of a list do you have?

A I don't have it with me.

Q What kind of a document is it? Is it a marketing study?

A I dont think you could call it that, not in the sense that we would call it marketing study.

It is simply a compilatåon of everybody that we know who is now selling flexible tubing.

Q Who prepared the document?

A Probably our product manager maybe in conjunction withour market research people.

Q Do you know when thedocument was prepared?

A Probably in the last six months.

Q You would guess sometime in the last six months?

A Yes, because I don't recall it being a document upon which there was a date.

Q When was the last time you looked at this document?

A I revived the document prior to coming here to refresh my memory as to who was also selling this product.

Q It is your testimony there were fourteen companies entirely on that document.

A Yes.

JUDGE BARNES: Have you seen any of those products yourself?

THE WITNESS: Yes, quite a number of them, in shows, advertised and so forth.

I personally have not seen all fourteen products.

MR. NICKEL: Your Honor, I would like to move to strike Mr. Cosgrove's testimony as to the number marketing in the United States.

I am willing to let it stand as to the companies he named.

He stated there were 14 companies entirely on a document.

It is hearsay.

JUDGE BARNES: It doesn't have to be in the record.

It is a company record that he has seen and refreshed his memory on.

His company has a list of the companies and there is nothing improper about that.

MR. NICKEL: Your Honor, Mr. Cosgrove could not have refreshed his memory from that.

He said he had no knowledge other than what was on that piece of paper.

JUDGE BARNES: It is a company document.

It would be the same as if he read off a sales figure before he came here and he then repeated the sales figure.

MR. NICKEL: Your Honor, a company record has a great deal more reliability -- a company record as to sales as a routine bookeeping entry has a great deal more reliability than a marketing forecase, whatever that document is.

It wasn'tcheckec by accountants like a sales statement would be.

JUDGE BARNES: I am not going to strike his testimony if that is your motion.

Q On direct you indicated there were two types of face masks that weremanufactured and sold by Ohio Medical.

You look puzzled, is that correct?

A Yes, I know what you are referring to.

You are talking about a disposable and reusable item.

Q You were asked on direct what other companies manufactured those face masks and you indicated no one, only Ohio.

A If I didn't put it this way, I was incorrect but as far as the reusable type, the majority of the reusable masks that are supplied by other anesthesia suppliers are imported.

The disposable version is only made by Ohio in this country and I believe we are the only ones that offer a disposable version.

The rest of the disposable circuit that is offered by Ohio and other people does not include a mask. It is a separate product.

Q Are there other companies other than Ohio that manufacture and market reusable face masks used in anesthesia in the U.S.?

A Not to my knowledge.

Most of it is imported.

JUDGE BARNES: Is there any reason for that, Mr. Cosgrove?

THEWITNESS: Probably cost, your Honor.

Q Does the face mask manufactured by Ohio Medical have a unique design?

Start with the disposable one.

A Well, it is unique in that it is the only one available.

Q Does Ohio have a patent on the design of its disposable face mask or did it at one time?

A Well, if it does not it did then. It has only been out four or five years.

Q You indicated that the companies that import face masks using anesthesia were Rusch, Franklin and Eschman.

A Those are the three that I know.

Q Would you estimate the sales of face masks manufactured by Rusch in the U.S. in 1973?

MR. KAPLAN: I am not sure I understand that.

JUDGE BARNES: Rephrase the question.

Q How are the face masks used that are manufactured by Ohio Medical?

A Anesthesia face masks?

Q Yes.

Are they used in conjunction with a machine?

A Yes.

Q Does Rusch market face masks in the U.S.?

A I believe they do.

Q Anesthesia masks?

A Yes.

Q What were the sales of face masks, wouldyou estimate in the U.S. in 1973?

A I don't know.

Q Could you give me an estimate of the sales of anesthesia face masks of Franklin in 1973?

A No. I have no idea.

Q Could you give an estimate as to the sales offace masks by Sechman, anesthesia masks, in 1973?

A No, sir.

Q How do they distribute them?

A Probably the same way Franklin does.

Q Through other companies?

A Yes.

Q Does Rusch also distribute face masks in the U.S through other companies?

A Yes.

That doesn't mean that there is not an isolated case of a dealer that they are selling through in this country.

I don't know.

Q You testified that Ohio Medical began manufacturing ventilators in the last six months?

A Yes.

Q Can you name the other companies that manufacture and market ventilators in the U.S.?

You did name them. Do you recall that?

A Yes.

Q Would you tell us how ventilators -- how many Ohio has sold in the last six months?

MR. KAPLAN: Objection.

We have the dollars in an in camera exhibit.

JUDGE BARNES: It wouldn't even be relevant if it was the last six months.

Q Did you sell ventilators in 1973?

A Yes.

JUDGE BARNES: It would be on his sales report.

MR. NICKEL: He testified on direct that he manufactured and sold 2500 anesthesia machines in 1973 and that wasn't in camera.

I don't know what the reason for the number of ventilators that they sold in 1973 is in camera.

JUDGE BARNES: Well, Mr. Kaplan brought that out on direct and it wasn'tin camera -- if he brought that out on direct and it wasn't in camera, there would be no problem.

MR. KAPLAN: I think I did that inadvertently on direct.

It is up to Mr. Cosgrove whether he regards that information as sensitive and whether he wants it in camera --

MR. TOPKIS: I don't think it is any secret.

MR. KAPLAN: Mr. Cosgrove, do you regard that as sensitive, confidential information, the number of ventilators you sold in 1973?

THE WITNESS: Yes. I don't wish to divulge that.

MR. NICKEL: I don't think it is essential. I won t ask about it.

Q Would you estimate the total sales of ventilators in the U.S. in 1973,anesthesia ventilators in dollars?

A I'm sorry, I am trying to relate it down to units. 2 to$$3 million dollars worth.

Q Is that at the manufacturing level?

A At the selling level.

You are talking about the sales value of that --

JUDGE BARNES: To the manufacturer --

MR. NICKEL: Selling value by manufacturers.

THE WITNESS: Yes.

JUDGE BARNES: Is this a good point to stop for today?

MR. NICKEL: Could I have just three more minutes?

JUDGE BARNES: Certainly.

Q What percentage of the two to three million dollar figure would you say was accounted for by sales of ventilators by Engstrom in 1973?

A I can only answer that by saying it would be a very small percentage.

Q How does Engstrom distribute ventilators in the U.S.?

A They have a firm called LKD or some such name that sells them along with other products and I don't know what the other products are.

Q What percentage of the 2 to 3 million dollar figure would you estimate was accounted for by Monahan in 1973?

A It would be a little difficult to answer that because in 1973 the majority of ventilators the Monahan ventilators sold in this country were sold by Ohio.

Q What percentage of the 2 or $3 million figure would you estimate was accounted for by Air Shields or Narco Scientific?

A 15 to 20 per cent.

Q Byrd?

A About 10.

Q Puritan-Bennett or Benntet?

A Relatively low number.

Q Less than 5 per cent?

A I would think so.

Q Emerson?

A 10 or 15.

Q North American Drager?

A I don't know.

Q When did Searl introduce ventilators in the U.S. if you know?

A I am not sure.it was aventilator. I think it was a respirator.

It was at the ASA meeting last year in San Francisco.

Q Searl did not market -- does not market ventilators in the U.S.?

A I believe it is a respirator.

Q Did they, to yourknowledge market any respirators in 1973?

A Not to my knowledge.

MR. NICKEL: All right.

Your Honor, this is a convenient stopping place.

JUDGE BARNES: Off the record.

(Discussion off the record.)

JUDGE BARNES: We will adjourn until 9:30 tomorrow morning.

(Whereupon, at 5:50 p.m. the hearing was adjourned to June 8, 1974, at 9:30 a.m.)

BEFORE THE FEDERAL TRADE COMMISSION

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In the Matter of:

BRITISH OXYGEN COMPANY, LTD., BOC FINANCIAL CORPORATION, BOC HOLDINGS, LTD., BRITISH OXYGEN INVESTMENTS, LTD., AIRCO, INC.

Docket No. 8955

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Hearing Room [illegible],
26 Federal Plaza
New York, New York
Friday, June 14, 1974

Met, pursuant to notice, at 9:30 a.m.

BEFORE: ERNEST G. BARNES, Administrative Law Judge

APPEARANCES:

K. KEITH THURMAN, GORDON YOUNGWOOD, DON PURCELL, DARYL NICKEL, RHETT KRULIA and JOHN HOAGLAND, on behalf of the Federal Trade Commission

JAY H. TOPKIS, LEWIS A. KAPLAN and MOSES SILVERMAN, Paul, Weiss, Rifkind, Wharton and Garrison 345 Park Avenue, New York, New York, 10022, on behalf of respondent, British Oxygen Company, Ltd.

FOSTER WOLLEN, R. BRUDE MAC WHORTER and DANFORTH NEWCOMB, Shearman and Sterling, 53 Wall Street, New York, New York, 10005, on behalf of respondent AIRCO, INC.

ROBERT L. DOAN, assistant general counsel, Union Carbide Corporation, 270 Park Avenue, New York, New York, and ALEXANDER W. SIEROK, Wald, Harkrader and Ross, 1829 19th Street, N.W., Washington, D.C., 20938, on behalf of Union Carbide Corporation

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EXHIBITS

BOC RX	FOR IDENT.	IN EVID.	REJECTED
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229 A-Q			2520
208A,B		2577	

JUDGE BARNES: On the record.

RAY D. COSGROVE, resumed

CROSS EXAMINATION (Continued)

BY MR. NICKEL:

Q Mr. Cosgrove, yesterday you mentioned that Ohio had a research and development department?

A Yes.

Q And it was involved in designing anesthesia equipment?

A Among other things, yes.

Q How large is that R & D department?

A About 40 people.

Q What was Ohio's expenditure for R & D in '73?

MR. TOPKIS: Is that something that we need go into, your Honor? I guess they have a substantial R & D budget but I don't know if this man wants it known.

Q Do you consider that sensitive?

A Yes, I do.

Q Would you be willing to give me a rough estimation?

M[illegible]APLAN: Excuse me, your Honor --

JUDGE BARNES: I don't believe this was gone into on direct.

MR. KAPLAN: Ohio Medical, as we have seen from the direct, has a tally of exhibits on Commission Exhibit 330 and is involved in things that don't have to do with this suit. Their gross R & D budget wouldn't be relevant without some refinement.

JUDGE BARNES: He said he had about 40 people.

MR. NICKEL: It was gone into on direct in this respect: Mr. Kaplan asked this gentleman the various items of components and he asked if there was any technology involved in manufacturing these items. My question was within that scope, but I will drop the matter.

JUDGE BARNES: All right.

Q What companies manufacturedanesthesia respirometers in the U.S. in1973?

A I don't know of any in the U.S. in 1973 that manufactured respirometers.

Q What companies imported anesthesia repirometers in the United States in '73?

A A number of companies import the Wright respirometer. There are quite a few companies and I don't know who they would be.

Q The Wright respirometer is imported by companies other than Harris Lake, Frazer-Swetmann?

A I believe so.

Q Who manufactures the Wright respirometer?

A I believe it is manufactured by BOC.

Q Would you estimate the total sales of the Wright respirometer in '73 in the United States?

A I would have no way of knowing since we do not have a product of similar nature.

Q Yesterday you testified as to the sales of monitoring equipment and you testified that you don't manufacture monitoring equipment.

A That is correct.

Q How is it you can estimate the sales of monitoring equipment and not Wright respirometers?

A The total market for monitoring equipment is substantially greater than Wright respirometers, and therefore we have a greater interest in it.

Q What companies manufacture and market laryngoscopes in 1973 in the United States?

A I believe there were two companies.

Q Who are they, please?

A Welsh-Allen, and the Foregger Company, a division of Air Products.

Q Where does Welsh-Allen distribute laryngoscopes in the United States?

A Through a series of dealers as well as Ohio -- I would say through dealers and Ohio Medical Products.

Q How does Foregger distribute Laryngoscopes in '73?

A On a direct and on a dealer basis.

Q Ohio markets laryngoscopes?

A Yes.

Q Would you estimate the total sales of laryngoscopes in

'73 in the United States?

MR. KAPLAN: Objection, your Honor, that is in the record. Also, the figure is sensitive, it is in camera.

MR. NICKEL: I am talking about total sales, not about Ohio specifically.

JUDGE BARNES: Can you answer that?

THE WITNESS: I really don't know, because it is a relatively small sales volume as far as Ohio is concerned. We never studies that market in any great detail.

Q Does Ohio market laryngoscopes under its own brand name?

A No, they don't.

Q What companies manufactured and marketed esophogeal stethescopes in the Unites States in '73?

A Other than Ohio Medical Products, I knwo of no others. I would just have to assume that other people who are selling a similar line of products would make the same product available to their customers.

Q I believe you mentioned on direct that a company named Frank Simmons markets esophogeal stethescopes?

A They don't market them, they manufacture them.

Q And they distribute them through other companies?

A Not to my knowledge. This is a very small, one-man operation. The market itself is very small. It is an outgrowth of some technology at the Mayo Clinic in Rochester, Minnesota. This man is an employee of the Mayo Clinic and has a separate company as well.

Q What does he do with the product that he manufactures?

A To my knowledge, that is the only product he does manufacture.

Q Does he distribute it?

A No, sir. He distributes it through us. I think I stated before that he manufactures it but does not market it in the sense that we are talking about here.

Q Does Ohio market esophogeal stethoscopes under its own brand?

A I believe it does.

Q Is it Ohio Medical's design?

A No, it is his design.

Q What companies manufacture and market forceps, andsthesia forceps, in the United States?

A They are manufactured by all of the major surgical instrument houses in the United States which are very numerous. I can name a few, like Sklar, Pilling, those would be two that come to mind. However, the forcep that is used is relationship to anesthesia or for anesthesia application is a very inexpensive form of a forcep and a goodly number of these are imported because they are much less expensive than those made here in the United States. As a matter of fact, a goodly share of them come from Pakistan. I hve no way of knowing the company in Pakistan.

Q Could you estimate the total sales of anesthesia forceps in the United States in 1973?

A I would have no idea.

Q Would it be a small number?

A I would say a relatively small number, yes.

Q What percentage would you say was imported?

A Imported for use in anesthesia?

Q Yes.

A I would say a rather high percentage, for the reason I just described. It doesn't require a precision forcep to simply grasp the tube and assist the anesthesiologist in getting it down the throat. It is merely another form of a pair of pliers, is what we are talking about, and it can be a rather crude instrument in that regard. I think Dr. Hedley White said there is quite a bit of lifting of this equipment in his hospital. He said they have a habit of disappearing. They don't put a lot of money into forceps in anesthesia.

Q By a relatively small number, sale of forceps of the United States in '73, do you mean less than $500,000?

A Mr. Nickel, I have no idea. I couldn't even give you the unit cost, how much each one costs. You are talking about probably a dollar or two per unit. So $500,000 worth wuld be an awful lot of forceps use in anesthesia. I don't believe they steal even that much.

Q Yesterday on direct examination you testified that Ohio Medical manufactures and markets an AVC analyzer vaporizer controller?

A That is correct.

Q What other companies manufacture AVC's in the United States?

A No one to my knowledge.

Q Do any companies in the United States import AVC devices?

A No, sir.

Q Yesterday on direct examination you testified that three compaies manufacture and market oxygen analyzers. I believe those companies were Ohio, Bio-Marine and Beckman Industries. Do you recall that testimony?

A I don't believe that is exactly right. I said I can recall two manufacturers. One is Instrumentation Labs and the second is Bio-Marine. Ohio Medical distributes the I.L. Oxygen analyzer. We don't manufacture it.

Q Your testimony is that Beckman Industries does not manufacture --

A I don't know. They are a large company with a broad range of so-called monitoring devices. They very possibly could be manufacturing it.

Q Could you estimate the total sales of oxygen analyzers in the United States in 1973?

A I have no way of knowing. We just started marketing this product. We have no sales data. We have only limited sales of our own at this point.

Q Mr. Cosgrove, I am going to show you Commission Exhibit 330 and have you look on page 3, specifically the aspiration and suction devices listed there. You indicated that Ohio manufactures aspiration and suction devices to be used as an integral part of anesthesia machines?

A It is sold as an accessory but it becomes a part of the unit. It is attached to the anesthesia machine.

Q Are the sales figures listed for aspiration and suction devices those represented by the equipment used as an accessory for anesthesia machines?

MR. KAPLAN: Objection, your Honor. These are not sales figures but manufactured products.

JUDGE BARNES: Do you want to rephrase the question?

Q The sales of manufactured aspiration devices listed on page C of Commission Exhibit 330, those aspiration and suction devices designed by Ohio Medical to be used as accessories to anesthesia machine?

A They are designed by Ohio, manufactured by Ohio to be used on and as part of an anesthesia machine, yes.

Q Do the figures that I referred you to represent the total sales of aspiration and suction equipment by Ohio Medical?

A No, they do not.

Q You have other aspiration and suction equipment not listed?

A That is correct.

Q And what is the aspiration and suctkon equipment used for that Ohio manufactures?

A Well, it has the same primary purpose or use as the equipment that you just referred to. However, its source of power or source of vacuum comes from another place in the hospital. It is tied in with the central piping system. A large vacuum pump usually located in the basement of the hospital. A tube is located either in the wall or in the ceiling and then the equipment that goes with it to regulate the amount of vacuum and collection bottles and tips and so forth that are used in conjunction with it are also used in surgery by the anesthesiologist, but they are not shown in that figure at all.

Q Mr. Cosgrove, how are you able to determine which aspiration and suction devices are used in anesthesia and which aspiration and suction devices are not used in anesthesia?

A Well, in either case, the two types we are talking about, the one mounted on the machine versus the one that is plugged into a wall or ceiling receptacle can be used for either anesthesia -- we are talking about the surgical environment. It could be used by the surgeon to maintain a clear surgical field, to keep a clear, unobstructed view of the field.

Generally speaking, the unit referred to in the document that you referred to are used by an anesthesiologist because of the location of it. It would be difficult for the surgeon who is working in the abdomen to reach around and attach the tip to the machine and clean out an incision. There are usually two sources of vacuum, one that is dedicated to the anesthesiologist's use and one that is dedicated to the surgeon's use. So they are not scrambling back and forth if they both need suction at the same time. The one on the mabhim is clearly used for anesthesia because of its location and the other source that I mentioned is usually divided into two parts.

MR. NICKEL: May I have a moment, your Honor?

JUDGE BARNES: Yes.

Q Yesterday, Mr. Cosgrove, on direct examination, you testified as to disposable breathing circuits and you listed the companies that manufacture and market disposable breathing circuits in the United States.

A I believe I listed some of them.

Q Could you estimate the total sales of disposable breathing circuits in the United States in 1973?

A Approimxately $7 million.

Q Of that $7 million figure, what percentage is accounted for by Ohio Medical?

MR. KAPLAN: Objection, your Honor. We have the figures in the record.

JUDGE BARNES: They are in the record in camera; is that correct?

Q Does Ohio Medical manufacture disposable breathing circuits?

A Yes, they do.

Q Does it market disposable breathing circuits that it does not manufacture?

A No, it does not.

Q The companies you listed yesterday on direct examination as manufacturing disposable breathing circuits, besides Ohio, were Foregger, 3 M, Flex Tube, Warne, Will Ross, and Inhalation Therapy Associates, among others.

Do you know how 3-M distributes disposable breathing circuits?

A I do not know.

Q But you do know that they manufacture disposable breathing circuits?

A To the best of my knowledge they do.

Q Do you hve any idea of their sales of disposable breathing circuits?

A I don't.

Q Do you know how Flex Tube distributes disposable breathing circuits?

A It would be speculation on my part to say that they probably sell through dealers.

Q Could you estimate the sales of disposable breathing circuits by Flex Tube in '73?

A I have no idea.

Q Do you know how Warne distributes disposable breathing circuits?

A No, sir.

Q Do you have any idea as to the sales of disposable breathing circuits by Warne?

A No, sir.

Q Do you know how Will Ross distributes disposable breathing circuits?

A They sell direct.

Q Could you estimate the sales of disposable breathing circuits by Will Ross in '73?

A I have no idea.

Q Do you know how Inhalation Therapy Associates distributes disposable circuits?

A Again, I wold have to say that it is probably through a dealer association.

Q Could you estimte the sales of inhalation therapy equipment by --

A I have no idea.

Q Where did you get the $7-million figure of disposable breathing circuits in 1973?

A Taking the number of inhalation anesthetics that are administered in the United States and surveys that we conducted as to how many of those inhalation anesthetics are given with disposable circuits and knowing our own sales of circuits, we were able to extrapolate and come up with a figure of 7 million. You have a atotal of 12 companies in there, so, 7 million is spread around quite a number of companies, as you can imagine.

Q Who is the largest manufacturer of disposable breathing circuits in the United States?

MR.KAPLAN: Objection, your Honor. Relevancy.

MR. NICKEL: I am trying to determine just how much it is spread around.

MR.KAPLAN: That would be relevant if there were a category here in the subpoena of disposable breathing circuits.

MR. NICKEL; Your Honor, they brought up these companies that sell disposable breathing circuits. I should be permitted to cross-examine this witness on those companies.

JUDGE BARNES: You may answer if you know that, Mr. Cosgrove.

THE WITNESS: I would say Ohio Medical Products is the largest manufacturer.

Q Who would be the second largest manufactuerer?

A Dupaco.

Q The third largest?

A From there on, I don't know.

MR. KAPLAN: May I have a continuing objection.

JUDGE BARNES: All right.

Q Where would you estimate that Foregger fit in with total sales of disposable breathing circuits? Would they be in the top five?

A I really wouldn't know, Mr. Nickel. I couldn't tell.

Q Yesterday on direct examination, Mr. Cosgrove, you estimated that the sales of inhalation anesthetic equipment and accessories in the U.S. in 1973 was $36 million. Do you remember that testimony?

A Yes.

Q Was that at the manufacturing level?

A I am afraid I am never quite clear of what your definition is of manufacturing level. I wish you would go through it again so I can be sure I give you an accurate answer.

Q Does that $36 million represent the sales by the companies that manufacture those items?

A Yes.

Q Was that your personal estimate or is that Ohio Medical's estimate?

A It is Ohio Medical's estimate.

Q What was Ohio Medical's estimate of inhalation anesthesia equipment and accessories in 1972?

A I don't recall.

Q Where did you obtain that figure, Mr. Cosgrove, the $36 million figure?

A By taking various submarkets that we have talked about and based on data that we have accumulated and combined it.

Q Is that figure contained in a document?

A In a single document, no.

Q Is it contained in any types of documents?

A I am not sure if I understand clearly what you mean by a document.

Q Well, you didn't personally make those estimates, did you?

A No.

Q Who did?

A It was a combined effort of our market research group, our product manager, and our sales manager.

Q And did they report that $36-million figure in a document?

A Yes, they reported it as a study, yes.

Q When was that estimate made or the study made?

A Earlier this year.

Q When was the last time you looked at that study?

A Last evening.

Q Last night?

A Yes.

Q When was the last time you looked at it prior to your testimony yesterday?

A Several days ago.

Q Do you have that study with you, Mr. Cosgrove?

A No, I do not.

Q You looked at it last night?

A Yes.

Q Where is it now?

A In the possession of my attorneys, the Airco counsel.

Q In this room?

A Yes, sir.

MR. NICKEL: Your Honor, I would like to take a look at that document for cross examination purposes.

MR. WOLLEN: Your Honor, I think there must be some confusion. The only document I have in my possession is not a document, a study prepared by personnel of Ohio Medical. It was an internal memorandum prepared by my firm.

Is that correct, Mr. Cosgrove?

THE WITNESS: Yes.

MR. KAPLAN: I think the long and the short of the story is, your Honor, that when the goverhment moved for a preliminary injunction, Ohio and counsel made such an estimate for purposes of litigation.

Correct, Mr. Wollen?

MR. WOLLEN: That is correct.

Q Is that correct?

A Yes.

Q So the study wasn't made by your marketing research people?

A It was an accumulation of data which the Sherman and Sterling lawyers brought back, and from that, put together a synopsis.

Q Who suggested the $36-million figure?

A It was, I assume, a figure arrived at by adding up all of the components for which we supply data.

Q And that $36-million figure was specifically prepared for this litigation?

A I presume that the document or the memorandum that you are referring to was prepared specifically for this litigation.

MR. NICKEL: Your Honor, I still request that we obtain a copy of this document for cross examination purposes.

I would like to know who prepared it.

MR. WOLEN: We did, Sherman & Sterling, and it is certainly a work product.

MR. NICKEL: Your Honor, in that case, I move that Mr. Cosgrove's estimate be stricken from the record. It is based on a document prepared by counsel.

MR. KAPLAN: Your Honor, bo be clear, and I think Mr. Wollen will confirm this, the information in the document didn't come from the minds of Sherman & Sterling but the document is an attorney's work product. It containes privileged information between the client and his attorney.

MR. NICKEL; Your Honor, may I request that you be shown the document to determine whether in fact it is an attorney's work product?

JUDGE BARNES: What is this $36-million figure?

MR. NICKEL: The estimate Mr. Cosgrove gave on direct examination for the total sales in '73 of inhalation anesthetic equipment and accessories in 1973, and he based his information on a document that was prepared by counsel, and I can't cross examine him as to that estimate without seeing that document.

If you will recall, your Honor, in Washington, Robert Scott of Air Products testified as to a market sudy that he had with him that he said he referred to in making his estimate and it was shown to your Honor and you clipped out the figures from the study and you showed it to Mr. Topkis for cross examination.

MR. KAPLAN: With due respect, Mr. Scott's reference was certainly not in a document which was prepared for counsel for the purpose of defending litigation. Mr. Scott's piece of paper came out of a book which I never say but which your Honor did which was considerably fatter and the only piece of paper we got out of Mr. Scott was a total with four categories of equipment on it. None of the underlying data was produced.

MR. NICKEL: Your Honor, I am just asking that you be shown the document.

JUDGE BARNES: I think this was identical. You observed Mr. Scott in the room observing a document. At that time I ordered the document be produced. Mr. Cosgrove looked at the document last night and I am going to order it produced now or I will strike the $36-million figure.

MR. KAPLAN: May we have a recess, your Honor?

JUDGE BARNES: We will take a 10-minute recess.

MR. KAPLAN: Your Honor, permit me to renew my objection briefly.

First of all, I think it would be useful to describe the document about which we are talking.

It is on a Shearman & Sterling letterhead. It recites that it was prepared by Shearman and Sterling pursuant to a conference held at Ohio Medical Products on March 3, 1974, which, as your Honor will recall, is about five days after the institution of this action. It was a conference attended by Mr. MacWhorter and Mr. Hawkins. It was for the purpose of advising Ohio. The communications in this communication are privileged. It contains lawyers' handwritten notes with respect to this matter.

In addition to being privileged under the attorney-client privilege, the document therefore contains attorney's work product.

Furthermore, Mr. Cosgrove said that he hadn't seen the document for several days before he testified and gave the estimate yesterday. Mr. Scott's situation, as your Honor will recall, was rather different. He came directly on the stand from a witness room where he was reading the document with which he was confronted. I don't think there is any need to split hairs about the rule involving reference to document to refresh one's recollection, butthe fact is that in Goldman v The United States, the Supreme Court held that unless the document is referred to on the stand, it need not be produced. That rule has been stretched a little that where a witness sitting in a room with the document prepares for the testimony -- that was not the fact here. The fact that Mr. Cosgrove looked at the document last night has no bearing on the fact that he testified yesterday, several days after seeing the document.

We renew the objection to your Honor's order.

JUDGE BARNES: On the attorney work product argument, as I understand the law, the attorney work product is not an absolute privilege. It is a limited privilege which is to be protected to the extent possible. It must give way to a strong showing of necessity or for other reasons, the attorney work product can be waived. That is why I feel Mr. Cosgrove's testimony was waived the attorney-client privilege on that document. He testified about it, you put him on the stand yourself to have him testify about it. I feel in fairness, the document should be made available for cross examination purposes and as I did in the case of Mr. Scott, I will excise those portions that are not clearly relevant to the witness' testimony.

MR. KAPLAN: With the utmost respect, your Honor, I believe the proper authorities would demonstrate that Mr. Cosgrove doesn't have the authority to waive the privilege on behalf of Airco. Certainly the attorney-client privilege of the corporation cannot be just waived by anyone. If your Honor would wish it, we could certainly provide some authority. But with the utmost respect we believe the attorney-client privilege is absolute and in defenence to your Honor, we respectfully will not produce the document. If that means the $36 million estimate will be stricken, that is your ruling and we will bow to it but take exception to it.

JUDGE BARNES: We will strike the estimate of $36 million figure.

BY MR. NICKEL:

Q Yesterday you indicated on direct examination that your indication that there were 14 companies manufacturing conductive tubes in the United States was based on a document; do you recall that testimony?

A Yes.

Q Is that the same document that Mr. Kaplan is referring to?

A Yes.

MR. NICKEL: Your Honor, I also move that his statement as to the 14 companies manufacturing conductive tubing be stricken.

JUDGE BARNES: The same ruling.

MR. KAPLAN: Your Honor, before we embark on a wholesale bid of striking testimony, Mr. Cosgrove undoubtedly has personal knowledge as to some of these companies and I believe he testified yesterday.

JUDGE BARNES: On redirect your may proceed.

MR. KAPLAN: Fine.

Q Mr. Cosgrove, you indicated that the total sales of breathing circuits was $7 million?

A Yes.

Q Was that estimate based on the document referred to by Mr. Kaplan?

No, sir.

Q It wasn't?

A No, sir.

Q Yesterday, Mr. Cosgrove, you testified as to certain monitoring equipment; do you recall that testimony?

A Yes.

Q The monitoring equipment you mentioned was EKG equipment?

A Among others.

Q EEG equipment?

A Yes.

Q Pulse and temperature monitoring equipment?

A Yes.

Q You indicated that pulse and temperature today are generally monitored by electronic devices?

A I said they could be monitored by electronic devices.

Q Is that monitoring equipment that we mentioned, is it specifically designed for the anesthesiologist?

A I think in some cases it is. By that I mean that there are space limitations, positioning of the equipment in the surgery which requires a, let's say, a smaller cardioscope or the type of readout on a temperature monitor which perhaps are not required in intensive care or cardiac care units.

So, I presume for the moment that there are specially designed equipment that would go into the surgery for use by the anesthesiologist.

Q You say that was a presumption on your part, Mr. Cosgrove?

A Yes, sir.

Q You estimated yesterday that the total sales of monitoring equipment in 1973 in the U.S. was $2 million?

A No, I think I said $200 million.

Q And that 20 to 25 precent of that figure was represented by monitoring equipment used by anesthesiologists?

A That is correct.

Q Are those figures based on the document referred to by

Mr. Kaplan?

A No, sir.

Q Where did you obtain that figure, Mr. Cosgrove?

A Which figure are we talking about?

Q Both.

A The $200 million is the result of our best estimates of a number of studies that are done on the monitoring field in the United States. The monitoring field is probably the most intensively studied segment of the hospital equipment industry today, simply because of its size. And according to a number of studies that we at Ohio have reviewed and tried to put our best efforts on, we have come up with an estimate of approximately $200 million.

Now, with regard to the 20 to 25 percent that is used in anesthesia, this is a result of a series of interviews with anesthesiologists throughout the United States and in Madison, when we have a visiting professor talking about anesthetic techniques and so forth, this is one of the questions routinely put to these people, what is the percentage of your monitoring equipment in your hospital utilized in surgery, and the range is 20 to 25 percent.

JUDGE BARNES: Is a lot of this type of equipment used in intensive care wards now?

THE WITNESS: Yes.

JUDGE BARNES: Does that account for the growth of intensive care units?

THE WITNESS: Yes.

JUDGE BARNES: Is it a new feature of medicine?

THE WITNESS: It is probably the fastest growing segment in the hospital area in terms of construction and so forth. More and more intensive care and cardiac care beds are being built every day, and thus they are built with this very elaborate monitoring equipment.

Q Is that 20 to 25 percent estimate inclusive of respirometers?

A No. In the general definition of monitoring equipment, a respirometer is not normally included. We are thinking of pulse, temperature, respiration; respiration in this case is simply the fact that the patient is breathing. It is an audible signal or a visible signal that tells the anesthesiologist or the norse monitoring in the ICU that the patient continues to breath. At any time that light goes off or goes on, depending upon how the unit is rigged up, she has a problem and she knows it.

Probably an alarm sounds to indicate the cessation of breathing on the part of one of the patients she is monitoring. Normally speaking, a Wright type of respirometer is not included in monitoring equipment per se.

Q You indicated a $200-million figure was obtained from studies obtained by Ohio?

JUDGE BARNES: He gave a long answer as to the $200 million figure.

MR. NICKEL: He gave a long answer to the 25 percent figure.

A I think what I said was that the $200 million figure was as a result of a number of studies that had been completed by outside sources, not by Ohio. And we had taken this data from various locations and put our own best judgment as to how big the market is because these studies vary widely as to how big the market is because there are different parameters used by different people studying the market.

Q Were these studies that you referred to made under contract by Ohio or for Ohio?

A No.

Q What studies are you referring to?

A Well, by one means or another we have been able to obtain some of these studies. Some of this is public information and so forth. Some of the studies are published in journals.

Q The $200 million figure is based on those studies as corrected by Ohio Medical; is that correct?

A Yes. What we have done is tried to take the information found in the studies made available to us. Because of the potential size of this market, there is a great deal of information published in journals, in hospital magazines and so forth about the size and growth, speculating on this information. We have accumulated this information and based on the scope of the study, we have tried to narrow it down to that portion which in our definition means monitoring equipment. There's some rather exotic things in there that we don't feel are closely allied to our interest, so we cast that out of the information made available to us.

Q This $200 million figure, then, is only based on the items that Ohio would be interested in?

A Yes, they are most closely allied with our interests in the medical equipment field.

Q Mr. Cosgrove, you mentioned that your $36-million estimate--

MR. NICKEL: Strike that.

Q Your estimate as to sales of anesthesia equipment in the United States in '73 and your estimate as to the companies, the number of companies manufacturing and marketing conducting tubes was based upon the document refeered to by Mr. Kaplan --

MR. KAPLAN: Objection. There was not a word about conducting tubes. Mr. Nickel may be confusing it with disposable breathing equipment and --

MR. NICKEL: I believe Mr. Kaplan wasn't listening a second ago --

JUDGE BARNES: The $7 million figure?

MR. NICKEL: No, the conducting tubes is what I am talking about. He said he based his estimate -- there was a determination of 14 companies --

JUDGE BARNES: All right.

MR. NICKEL: My question is, is there any other testimony that was given yesterday on direct examination based on that document that the witness can recall.

JUDGE BARNES: All right.

A Well, not having perfect recall as to what items we covered yesterday afternoon, it is a little difficult to say, but I belive we talked about rubber, reusable rubber as an item. I would say that the document you reffered to did help refresh my memory as to various shares of the market.

MR. KAPLAN: As to reusable rubber?

THE WITNESS: Yes.

Q Anything else, Mr. Cosgrove?

A Anything else what, Mr. Nickel?

Q Any other testimony other than what has previously been mentioned of yours that is based on that document.

A Again, I find it a little difficult to recall all the things we talked about. We talked about reusable rubber, we talked about disposables.

Q Mr. Cosgrove, I don't believe you gave any sales figures for rubber goods as I recall it.

A I don't believe I did either, Mr. Nickel. I say, I don't have total recall of what was covered yesterday. There was quite a bunch of ground that was gone over.

Q When was the last time Ohio Medical increased its prices for inhalation anesthetic equipment and its accessories?

MR. KAPLAN: Your Honor, we spent five or six hours listing items yesterday; which ones?

MR. NICKEL: In general.

Q Do you have a price list for anesthetic inhalation equipment and accessories?

A Yes.

Q When was the last time Ohio Medical increased its price list?

A February 1, 1974, as I recall.

Q I show you Commission Exhibit 316, page A. As best you can recall with respect to the items listed on that page, which items did Ohio Medical increase its prices for when it revised its price list in February of 1974?

MR. KAPLAN: Your Honor, I must object. Certainly there are better ways of getting this information. The Commission has subpoenaed several file cabinets of items. I didn't go into prices except to ask the general range of pricing of anesthesia machines.

JUDGE BARNES: I am having problems understanding this myself.

MR. NICKEL: Yesterday Mr. Kaplan asked Mr. Cosgrove if there was any relationship of the prices of the items or if the prices moved together of these items.

MR. KAPLAN: If Mr. Nickel will permit me to restate what I said yesterday, more accurately, I think the question was the prices changes in any particular item, did they bring about the change of demand or price --

MR. NICKEL: Your Honor, I am not restricted to the questions Mr. Kaplan asked. I think it is within the scope.

JUDGE BARNES: I think so also. You may proceed.

Answer the question.

Q Do you remember the question?

A You asked me to go down this list and mention the items that we raised our prices on earlier this year.

Well, first of all, as some background to that, at the time we raised our prices we were limited under price controls. So, the price increases we did put into effect were of a very limited nature. The procedure that we follow is to look at every item that you have listed here individually in terms of cost, of selling price, competitive situations and so forth and raise it accordingly. We certainly didn't use across-the-bhard price increases, regardless of the percentage on all items.

There are items here that were not increased at all and there are items here that were raised. I can't tell you which ones were specifically raised. I would be wrong if I said anesthesia machines were raised, because perhaps only one model was raised and another model was not raised.

The same thing is true of some of the accessories and absorbers, let's say, that we talk about here. Perhaps one item was raised and another item wasn't, either for competitive reasons or costing reasons and so forth.

So, without a great deal of background information available back in Madison, Wisconsin, I can't give you a definite answer.

JUDGE BARNES: It was not 3 or 5 percent across the board?

THE WITNESS: No, it was not.

Q You might just raise certain models?

A That's right. On anesthesia machines we might be raising one model and we might not raise another model.

Q Was it your testimony yesterday that there has been a change in the generic terminology used for respiratory equipment?

MR. TOPKIS: Did you say since his testimony yesterday?

MR. NICKEL: No. I said was it his testimony yesterday.

A I believe what I said was that over the last 15 years, what was called oxygen therapy back in those days has slowly evolved to inhalation therapy to what is now being more commonly called respiratory therapy, respiratory care, because the scope of the treatment, the scope of the responsibility of this particular subgroup within medicine has expanded.

Q Has it expanded to the point that respiratory care equipment now includes as a generic term products other than those used to control or assist breathing?

A No, but I think medicine has come to recognize that the forces that come to play in controlling and assisting breathing are a great deal greater than they were 15 years ago. In other words, the ramifications or the physiological implications of a poor exchange of gases to the lungs have a far greater effect on the body in total than they recognized or realized 15 years ago.

So, in order to do that job, a great deal more equipment is used than was used previously. It still all boils down to the fact that you are talking about the respiration of the patient, the breathing of the patient, but it is the overall effect of that breathing that has changed.

Q My question is really this: Does respiratory care equipment now include items other than those used to administer gases?

A I believe it does. I believe that you have to look at other items such as, aspirating equipment which certainly has to be an integral part of the respiratory care because you simply are not able to pas gases with either medication or just air or oxygen into the lung unless you have a clear airway, and in many cases the only way to get a clear airway is to suction out the patient.

On the fringes of it, and becoming more a part of respiratory care, is the diagnosis of the patient. We are talking about therapeutic devices here and you are certainly not able to prescribe therapy until you have diagnosed what went wrong. So, there are diagnosis parts of this coming into respiratory care.

Q What companies in the United States manufacture and distribute ventilators used in respiratory care?

A Well, we are getting into a little technical or semantics problem here, because, today, in respiratory care as such, the item you refer to is not a ventilator. At this time the reppiratory physiologist is trying to change the title from respirator to ventilator, but in the context of the testimony that I have heard and given and so forth, they are still called respirators and an offshoot of that is the so-called IPPB device which perhaps is in a broad sense a respirator or an aspirator also.

Q What companies manufacture and market respirators in the United States used in respiratory care?

A Puritan Bennett; Emerson; Monahan; Ohio, Drager to a lesser extent, I believe Bird.

Q What companies import respirators?

A Well, the Drager is imported, to the best of my knowledge. I believe that there is a new one recently imported by NCG which I have not mentioned here. I believe it comes from England and I believe it is called a Gill.

Q Did they import that in 1973?

A If they did it probably was very late in the year. The sales probably wouldn't even show up.

Q Would you estimate the total sales of --

MR. NICKEL: Strike that.

Q What companies manufacture and market resuscitators in the United States in 1973?

A You have Stephenson, I believe Air Shield, Globe, Laerdal. Those are all I can think of at the moment, and Ohio.

Q Going back to the respirators just for a second, did you include pediatric respirators when you were listing the companies?

A I did not, but I probably should have and I should have included Bourn then.

Q Ohio also has a pediatric respirator; is that correct?

A Yes.

Q Besides Bourn and Ohio, is there any other company that manufactures pediatric respirators in the U.S. or did in '73?

A I believe there is one other, but I can't remember who it is.

Q Would you estimate the sales of pediatric respirators in the U.S. in '73?

A I really can't, because our sales are rather limited at this point and your experience in finding competitive units in the field has been rather limited. That is normally the way that we would determine how many are sold and I guess we don't really have a good figure on how big this market is. It is a relatively small market and two companies that I mentioned, namely Bourn and Ohio, are in it. Our sales are rather limited and we haven't seen enough of the Borne equipment around to get any definite meaning from the reports.

Q As compared to the total sales of all respirators in the U.S., what percentage would be made up by pediatric respirators?

A I would say no more than 5 percent.

Q And of that five percent, what amount would Borne --

MR. TOPKIS: It is not 5 percent, it is no more than 5 percent.

Q Of that figure, what amonnt of that would be accounted for by Borne?

A I don't know.

Q Less than one percent?

MR. TOPKIS: Less than one percent of that figure, or --

MR. NICKEL: He said no more than five percent of the total figure of respirators.

A Again, it is going to be purely speculation or supposition on my part.

MR. KAPLAN: Then I object to it.

A One or two percent.

Q One or two percent?

A As I say, it is purely speculation.

JUDGE BARNES: Are these called incubators?

THE WITNESS: No, sir. It is quite often used in conjunction with an incubator. The incubator is a container to provide heat and humidity to the distressed newborn, and they may use this resuscitation device with it. It was designed for the very tiny infant.

Q What companies manufactured and marketed humidifiers and nebulizers in the U.S. in 1973?

A Mr. Nickel, there are literally dozens of them. I can name a few of them. There is Puritan Bennett, Air Sheilds, Foregger, NCG, Ohio, Devilbys, Hudson.

As I say, there are many more, it is a very common item in the market.

JUDGE BARNES: How many more items do we have to go through, Mr. Nickel?

MR. NICKEL: Not that many more, your Honor.

Q Were the humidifiers and nebulizers that you were referring to used or designed for use with respirators?

A Not specifically, no.

Q Could you elaborate on that?

A If you would like me to, yes. You actually require a very special type of humidification system for use with a respirator. Because you -- I am going to get technical here, I'm afraid. You can't disturb the pressure of the gas flow of the respirator by increasing its volume to the patient over that which is pre-set. The only way in some cases that you can humidify that circuit is by increasing the volume of gas flowing through the vaporize [illegible] have designed very specific vaporization equi [illegible] which in many cases will use ultrasonic or use heat. So you are literally warming the water or by ultrasonic breakup you are adding the humidity to the circuit without increasing the volume of the circuit.

On the other hand, you use humidifiers and nebulizers for alltypes of respiration therapy where you are giving oxygen or air to the patient because both oxygen and air are very dry and without humidification you will dry out the mucous membranes and wind up with a bigger problem than you started out with.

There are two different types of application, and one doesn't necessarily tie in with the other.

Q What companies manufacture and market or import and market respirometers in the United States that can be used in therapy or respiratory care?

A I belive that I mentioned that yesterday. The Wright respirometer was the one that I was aware of used in this country.

Q And it is used in respiratory care?

A It can be used either in anesthesia or respiratory care.

Q Do you have an estimate as to what percentage of the time that it would be used in respiratory care and what percentage of the time that it would be used for anesthesia purposes?

A I wouldn't even hazard a guess.

JUDGE BARNES: Is it the same instrument?

THE WITNESS: Yes, it is, sir.

Q Specifically designed for used in both respirtory care or anesthesia?

A You have a basic respirometer and there might be different attachments used on it if it is in anesthesia. You may take a different attachment if you interpose it in a respirator or are using it just as a free device, just simply to check the volume of the patient's breathing. But it is basically the same instrument used in anesthesia and so forth, and I would find it difficult to answer you because I would imagein the same instrument can be used in both places. In other words, it could be carried out of surgery at the end of the day, taken down to a ward to check the volume of the patient's breathing.

Q Do you know if that is actually done?

A Yes, I am quite sure it is done.

Q How often? Is it a common occurrence?

A Yes.

Q What companies manufacture and market or import and market IPPB equipment in the U.S.?

MR. KAPLAN: Your Honor, does he want importers, manufacturers,resellers, or what combination of those three?

JUDGE BARNES: Can you clarify it?

MR. NICKEL: I want both. I will start out by asking for manufacturers and marketers.

A There is Puritan Bennett, Bird, Monahan, Ohio. Now you are getting down into the small hand-held or manual type. You have Mine Safety Appliance, the Medi-Haler, Ricker, Retec.

Q Riker manufactures the Medi-Haler; is that correct?

A Yes.

Q What companies manufacture -- what companies import IPPB devices in the U.S.?

A I really don't know, but I don't think imports are of any significant nature in that market.

Q What companies manufacture and market inhalation therapy incubators in the United States?

MR. KAPLAN:; Your Honor, I am not sure there is any basis for saying there is any such thing.

JUDGE BARNES: I don't recall that either.

MR. NICKEL: Your Honor, incubators are listed on --

MR. KAPLAN: I am sure that Mr. Nickel will correctly point out that incubators are listed on Airco's stipulation but so, too, are other things that they would not regard as inhalation therapy equipment, I am sure.

MR. NICKEL: Yesterday, Mr. Kaplan, Mr. Cosgrove answered, in response to your questions that the incubators listed on this stipulation are used in respiratory care.

MR. KAPLAN: Among other things. And I think in light of that answer, it is improper to talk about inhalation therapy with respect to incubators.

Q Are there incubators not used for respiratory care?

A Yes.

Q Are there incubaters used in respiratory care?

A I have to elaborate on the answer to make it perfectly clear.

The addition of the use of oxygen in an incubator is only one of many aids that you are trying to bring to the distressed newborn. You are talking in terms of adding warmth, a clean environment in terms of filtered air. Possibly you are going to add oxygen, although it has been proven that concentrations of oxygen cause RF, which is blindness, to the infant because of over oxygenization. I think when I answered the question yesterday, an incubator has the ability to add oxygen or administer oxygen, but it is not its primary function. There are others which are grouped together for the distress of the newborn.

Q Does Ohio Medical manufacture incubators that can be used for the administration of oxygen?

A Yes.

Q What other companies manufacture the incubator that can administer oxygen in the U.S.?

A Air Shields. Imported would be the Drager. There is a new one just coming out on the market by Puritan Bennett. I don't recall the name of the product. I don't think it is even on the market yet.

Q Is the 198 Care-Ette listed on Commission Exhibit 330 an incubator?

A Until I see it, I don't know.

Q It is listed on page F, Commission Exhibit 330.

A Yes.

Q Is that an incubator?

A Yes.

Q And it can be used to administer oxygen?

A Yes.

Q In what geographic areas of the United States does Ohio Medical market respiratory equipment or the items we have been discussing?

A I thought I testified to that yesterday, but the answer is all over the United States.

Q In what areas of the country do the companies that you have named as manufacturers and marketers ot the items we have discussed market in the United States?

A We have mentioned a lot of companies here in terms of respiratory care. I would say generally they market throughout the United States. It may be that one of those companies in there does not market in Arizona and New Mexico, but generally speaking I would say they all do.

MR. NICKEL: Can I have a moment, your Honor?

JUDGE BARNES: Yes.

Q You testified yesterday that Ohio Medical makes market studies, to determine the size of the inhalation anesthetic equipment and the accessories manufactured in the United States?

A Yes.

Does Ohio make similar studies --

A Yes.

Q What is Ohio Medical'. estimate of the total sales of the respiratory equipment and accessories or equipment items we have been discussing, and I will list them --

MR. KAPLAN: Before you do, Mr. Nickel, perhaps I ought to tell the judge that such a figure is contained on the piece of paper that we were discussing and it is one or the other. They are either going to live with both or they are going to live with none.

JUDGE BARNES: I think you might ask your question and then ask the witness --

Q The items we have been discussing are respirators, resusciatators, humidifiers, nebulizers, respirometers. IMPB equipment, and incubators that can be used to administer oxygen.

MR. TOPKIS: And what is the question, does Ohio have a figure on that total?

JUDGE BARNES: Is that the question, Mr. Nickel?

MR. NICKEL: Yes.

Q Not does Ohio, I am asking for your estimate.

JUDGE BARNES: Do you have an estimate, Mr. Cosgrove?

MR. KAPLAN: I take it he is asking for a personal estimate apart from what is in Ohio's files?

MR. NICKEL: If he can give an estimate I will then ask him what he bases it on.

A I have an estimate but my estimate does not include at this point -- you had mentioned incubators -- but I do have an estimate, yes.

Q What is your estimate?

JUDGE BARNES: Ask him what it is based upon.

A It is based upon the document that I have been referring to, that is the number that I am going to use.

Q Prior to seeing that document, did you have an estimate as to the sales of those items in the U.S.?

A Yes.

Q I would like that figure.

JUDGE BARNES: Can you separate an answer here?

THE WITNESS: I am having a little problem doing it, your Honor.

Excluding the incubators, we would estimate the market to be approximately $75 million.

Q Of that $75 million figure, what amount would be accounted for by sales of that item, Globe?

A Infinitesmal.

Q What amount would be accounted for by the sales by Lehrdahl?

A No idea.

Q Would it be similar to Globe sales?

A No idea.

Q Mine Safety?

A Very, very small.

Q Retec?

A Retec, again, very small. I don't have exact sales figures.

Q Referring again to Commission Exhibit 330 pages D and F, there are a couple of nebulizers listed on that page, are those nebulizers used to administer oxygen or gases?

A Well, first of all, I will have to go down here. We have a deluxe heating nebulizer, that has to be grouped with the deluxe nebulizer, and we have an oxygen humidifier and a high volume nebulizer. Each one serves a slightly different purpose but each one is used for the administration of oxygen or air to the patient.

Q Yesterday you mentioned or discussed on direct examination hand-held nebulizers or bulb nebulizers. Are those nebulizers used to administer oxygen?

A Not normally, no.

Q Are they used to administer drugs?

A Yes.

Q Is a medi-haler used to administer oxygen?

A Normally it is used to administer air plus a medication.

Q Is that an over-the-counter product?

A I don't recall. I don't believe so, but I am not sure.

Q Could you give us the approximate cost of the nebulizers listed on Commission Exhibit 330 that you just referred to?

A I don't believe I did.

Q Could you?

MR. KAPLAN: Your Honor, the price list is in evidence.

MR. NICKEL: I am interested in the general figure, not the exact --

A I really can't. There is a wide range of them and I can't remember the prices. Some of them may be under $100. It is in that range. It is not $500, it maybe is $80 or something in that range.

Q How would that compare to the cost of a medi-haler for price?

A The prices are probably a little higher for a medi-haler but you are talking about two different types of applications, you are not talking about similar things.

Q Yesterday, Mr. Cosgrove, you also discussed the hand-E-vent manufactured by Ohio.

A Yes.

Q Is that a nebulizer?

A It has a small nebulizer as a part of the system, yes.

Q Is that -- is it used in the administration of oxygen?

A No. You normally administer air with a hand-E-vent.

Q Is it designed to be used in the home?

A Primarily, yes.

Q Does Ohio manufacture and market other respiratory care equipment designed to be used in the home?

A I suppose that some of our equipment such as an emergency oxygen unit that can be used for the cardiac patient or the patient with emphysema could find its way into the home. We manufacture one of our oxygen tents that is used in conjunction with a nebulizer in the treatment of cystic fibsosis. So, I would say yes, these other products do find their way into home care.

Q Yesterday on direct examination Mr. Kaplan asked you with respect to a number of companies, if they were involved in manufacturing and selling, marketing respiratory care equipment, and one of those companies was Bendix. Do you recal l that?

A Yes.

Q What equipment does Bendix manufacture and market?

A Bendix, I presume, is manufacturing and I know they are trying to market the home oxygen generator.

Q Do they market it, to your knowledge?

A It is advertised and so forth, but I don't know how successful they have been. We have no data to prove how many they have sold.

Q Did they market that equipment in 1973?

A I don't know.

Q Do you know how they distributed that equipment?

A No, sir, I do not.

Q Another company that Mr. Kaplan mentioned to you is Blount Industries.

A Yes, Santa Rosa, California.

Q What kind of equipment do they manufacture at Blount?

A They manufacture a complete line of disposable tubes, masks, cannulas, I believe they have a humidification system of some type.

Q Of the $75 million sales figure that you gave me earlier, what amount would be accounted for by their sales?

A Very small.

Q What amount would be accounted for by Bendix?

A Very, very small.

Q Another company you mentioned was, I believe, Bavona Tube?

A Yes, they are located in Chicago.

Q What respiratory care equipment do they manufacture?

A They manufacture a very high quality silicone tube which can be used for tracheostomized patients or various types of inhalation therapy, respiration therapy.

Q They manufacture that one device, the tube?

A I don't believe they manufacture the tube in total. Some of the basic silicone components are manufactured in Racine, Wisconsin and the rest of it is made in Chicago.

Q How do they market the tube?

A Direct and through dealers.

Q Do you know what their sales were in 1973?

A No idea.

Q Another company was John Bund?

A Yes.

Q What do they manufacture and market?

A I believethey manufacture oxygen tents.

Q Anything else?

A There may be some other products in the respiratory care field but I would say their primary product is an oxygen tent.

Q Do you have any estimate as to their sales in '73 of oxygen tents?

A No, sir.

Q Would you consider them to be very small?

A Yes. Tent therapy is on the decline in this country.

Q Bavans, is that very small also?

A Yes, I think we just mentioned them.

Q Another company that was suggested to you was Everest and Jennings. What kind of respiratory care equipment do they manufacture and market?

A Some kind of a small resuscitator device. Again, primarily, they are known for stretchers and wheelchairs.

Q Would their sales in '73 also be small?

A Yes, it would.

Q You indicated yesterday that General Electric was a company that manufactures monitoring equipment, blood gas monitoring equipment; is that correct?

A Yes. They manufacture a rather broad line of electronic devices used in the hospital field. As a matter of fact, they manufacture pace makers.

Q Do they manufacture any other items used in respiratory care?

A They may well be doing that, but I don't know. They may have introduced a product that I am not aware of.

Q Another company that I believe was suggested to you was L.K.B. Medical.

A L.K.B. Medical is the company that distributes the Engstrom units in this country, it is a Swedish designed and manufactured unit.

Q What other products aside from respirators does Engstrom import in the United States?

A I really don't know. Here is another case where this is their primary product, one that they are most well known for and that doesn't mean to say that they don't have some associated products that go along with it.

Q Of the $75-million figure estimate that you gave me earlier, what percentage of that figure would be accounted for by sales of the Engstrom respirator in the United States?

A Again, it is very, very small. These are very expensive pieces of equipment and there aren't many hospitals in the United States that are going to spend that kind of money for a respirator.

Q Another company that was suggested to you was Liquid Carbonics.

A Yes.

Q What items do they manufacture?

A They have pertty much a line of respiratory care products such as humidifiers, tent canopies, regulators, nebulizers, disposables of various types, and so forth.

Q Do you know for a fact that they manufacture those items themselves?

A No, I don't. I think they manufacture a portion of them and they probably buy some itesm and repack them or have them packaged under their label.

Q If someone from Liquid Carbonics told you that they manufactured virtually nothing with respect to respiratory care, would you be inclined to believe them?

MR. KAPLAN: May we have the definition of manufacture here? Complainant counsel in seeking responses to subpoenas haveused that as value added. I think there is a great deal of confusion here.

THE WITNESS: Can you give us a definition of manufacture?

Q What did you mean by manufacture when you used the term? You used it throughout your testimony, what have you been referring to when you say manufacture?

A I think we mean that we take certain compoments, either in a raw stock state or sub-assemblies, test them, and market them.

MR. KAPLAN: That is the point. The definition that complainant counsel has used in the subpoena and the way people have repponded to it --

JUDGE BARNES: We are interested in the examination of this witness. We will take care of your definition.

Does Liquid Carbonics do what you say Ohio Medical Products does?

THE WITNESS: I don't know how much of their product they manufacture, according to my definition.

Q Another company that was mentioned yesterday is Litton Medical Electronics.

A Yes.

Q What type of item do they manufacture?

A Electronic monitoring devices.

Q Another company was 3-M. What do they manufacture?

A They entered the field of disposable breathing circuits.

JUDGE BARNES: Do they own Riker, or what is the name of their medical products division?

THE WITNESS: I really don't know, your Honor.

Q Another company that was suggested to you yesterday on direct was Teledyne. What equipment, respiratory care equipment, do they manufacture?

A I think primarily they are in the monitoring equipment.

Q Any other equipment?

A Not that I know of.

Q Another company that was suggested to you, sir, was Victor Medical Products. What items do they manufacture?

A I believe inhalators, some small resuscitator devices, and some nebulizers.

Q The $75 million estimate you gave me yesterday, what percentage of that figure would account for their sales?

A Very small.

Q Another comany mentioned yesterday was Stevenson. Is Stevenson a subsidiary of Smith & Wesson Electronics?

A I believe it is.

Q You testified yesterday about a licensing arrangement that you discussed at one time with BOC, that you discussed -- Ohio Medical discussed with BOC?

A Yes.

Q What did that proposed arrangement involve?

A It involved one product called entinox.

Q Did Ohio medical ever sell any BOC respiratory care equipment in the United States, BOC equipment in the United States, either respiratory or anesthesia?

A I think the word "ever" is difficult. I can't go back that far into the company --

Q Within the last 10 years.

A Not to my knowledge.

Q Has BOC ever --

A Excuse me. I should qualify that. We well the Cyprane vaporizer which is manufactured by Cyprane, Ltd., which is owned by BOC. In that respect I guess we have to say yes.

Q You mentioned yesterday that Ohio Medical competes with BOC or at least one of their subsidiaries in the medical equipment market in Canada?

A That is correct.

Q With respect to what items, sir? One item you mentioned was the Boyle machine. Any others?

MR. KAPLAN: Objection, your Honor. Is Canada in this case?

MR. NICKEL: BOC certainly is in this case.

MR. KAPLAN: We had testimony about the Fiji Islands, too, and I wonder if they are in this case.

JUDGE BARNES: They compete on the Boyle machine. Do you need the other items --

MR. NICKEL: I am interested in BOC's participation in the markets to show that they had the technology to expand their participation in these markets in the United States.

JUDGE BARNES: Do you know the products they are selling?

THE WITNESS: Specifically it would be anesthesia, such as the Boyle machine and accessories, and probably central piping systems.

Q When did BOC, if you know, enter the Canadian market?

A I don't know.

Q Have they expanded their operations in the medical markets in Canada?

A I really don't know.

Q Within the last ten years?

A I really don't know.

Q Did Ohio Medical expect that BOC would expand Frazer-Swetman's operations in the United States after it acquired Frazer-Swetman?

MR. KAPLAN: I thought this was not a potential competition case, your Honor.

MR. NICKEL: : Your Honor, we have been through this once before.

JUDBE BARNES: I think it is a proper question. BOC was in the market and whether or not they expanded is another question. You may answer, Mr. Cosgrove.

A There was certain speculation on the part of Ohio Medical Products. The effect of the acquisition by Frazer-Swetman of BOC on Ohio and its business, yes.

Q What was your expectation?

A Well, the obvious reason for purchasing the company, a company like Frazer-Swetman, would be to expand its operation, unless, like somebody mentioned the other day, it was strictly an investment type thing, didn't seem to be lack of a good reason.

Q Has Ohio Medical been expanding its operations in the respiratory care equipment market in the United States?

A We have been attempting to.

Q You have been attempting to?

A You say in the United States?

Q Yes.

A Yes, sir.

Q What acquisitions in the medical markets that we have been discussing has Ohio Medical made in the last ten years, if any?

MR. KAPLAN: Again, your Honor, does that have anything to do with this case? If it does, I would like it explained to me.

MR. NICKEL: Yesterday he asked the witness about entrants and exits in this market.

JUDGE BARNES: You may answer.

A We purchased the Gallaher Elastimas business in Fort Myers, Florida, I think it was seven or eight years ago. We acquired the Gordon Armstrong Incubator Company.

Q What was the first company you mentioned, what did they do?

A They made conductive rubber materials.

Q When was the first acquisition made?

A Seven or eight years ago.

The second one is Gordon Armstrong company which was subsequent to Gallaher, I believe, they were a manufacturer of incubators. ENJ, which is a manufacturer of resuscit·tor devices.

Q What was that acquisition, when was it made?

A Eight or nine years ago. We purchased a company called Electromed in Houston, Texas, about five yu ears ago and about the same time -- I'm sorry, it was about three years ago. Five years ago we purchased a company called Electro Systems in California, a maker of prefabricated walls.

Q Walls?

A Walls.

Q Any others?

A No, sir.

MR. NICKEL: We have no further questions, your Honor.

JUDGE BARNES: We will take a five-minute recess.

(Recess.)

JUDGE BARNES: On the record.

REDIRECT EXAMINATION

BY MR. KAPLAN:

Q Mr. Cosgrove, before you looked at the piece of paper about which we have had some discussion this morning, did you have some estimate or did Ohio have an estimate of what the U.S. market at the manufacturers' level in 1973 was for the anesthesia equipment listed in CX 316-A?

A Yes.

Q What was it?

MR. NICKEL: Objection, your Honor. There should be a foundation as to how he differentiates --

JUDGE BARNES: I would like also to know if there is an estimate of the list of products shown on the document.

A I have to break them down into certain categories like anesthesia apparatus, which I believe I gave you an estimate on which was not based on the document simply because I couldn't remember the number. It was based on my own calculations of the number of what we sell and so forth. I think I said somewhere in the range of $10 million.

Then we have a breakdown of endotracheal which we are tracking very closely and have had some recent reason to be dealing with because it is a growing area and we are interested in watching its progress, and we estimated that to be approximately $5 million.

The accessory market which is made up of all of the other pieces of equipment used with anesthesia machines but not necessarily a part of it and which there are many other companies, I would have estimated in my own mind around 3 to 4 million.

We mentioned the disposables and for the same reason as I mentioned before, the fact that it is a new growing area of our business and we track it routinely, we trakk competitive activity routinely. So I had at my fingertips a figure of about $7 million.

Ventilators were mentioned yesterday and my number was based on the number that we sell and knowing approximately what our share of the market might be and extrapolating, I came up with a figure of somewhere around 3 to 4 million. And I believe that covered groupings here of what is on here.

Q Did you include rubber goods in the list, somewhere in the list?

A No, I did not.

Q Did you have some estimate for rubber goods used in anesthesia?

A I would say I was relying on my recollection from that document from the night before.

Q So you just gave us some estimates that you had previously?

A Yes.

Q And you did not include in those estimates rubber goods?

A No, sir.

Q All right, fine.

Now, on direct and also on cross we had some discussion of the sales through dealers as opposed to direct sales. Do any of the dealers who sell anesthesia machines for one or another company also service those machines?

A Some dealers do, yes.

Q And are there anesthesia manufacturers as far as you know who place reliance to one degree or another on dealers rather than on their own staff?

A Well, the term "to one degree or another" is a little difficult for me to assess.

MR. NICKEL: Before you answer, let me object to the question as to what you mean by reliance, Mr. Kaplan.

MR. KAPLAN: I mean, do they have servicing done by dealers rather than by their own employees.

A I think they will probably rely on a dealer in a given area where they do not have their own service representation. So they train that dealer to represent them in that respect.

Q Is it necessary or unnecessary for a manufacturer or a distributor of anesthesia machines to have a service staff capable of servicing all its machines all over the country?

A I think the fact that there are a number of manufacturers who use dealers to one degree or another for servicing, yes.

Q Now, is it necessary for someone who wants to engage in manufacturing one or another type of anesthesia equipment we have been discussing to manufacture a complete line of all theproducts we have discussed in the past two days?

A No, it isn't.

Q What do you base that conclusion on, Mr. Cosgrove?

A Well, I am thinking probably of one of the most recent entrants into the field of anesthesia equipment which would have to be Dupayco, which was not two or three years ago, but over the past six or seven years, they came in with a machine, a basic machine deisgn, and over the years they have added a number of accessories and so forth. They came in with a basic machine design that answered a specific need in a specific location.

Q In response to some questions from Mr. Nickel earlier this morning, you responded that various companies had a small or very small share of a market or a group of sales. Did you mean by that, less that 5 percent, or some higher figure?

A Probably less than 1 percent.

Q You said Ohio has about 40 people in the research and development area?

A Approximately, yes.

Q Without disclosing what types of projects they are working on, what are the broad areas that research is going on in at Ohio?

A We have an advanced development group working in areas which are not necessarily or by definition are not related to the product lines that we are in the market with. We have a separate group again working in the field of anesthetic agents. We have a group which is responsible for the development -- I should say for the maintenance of the product line as well as redevelopment in anesthesia, respiratory care, central piping systems, pulmonary function, neonatal equipment. I think I have covered them all.

Q Do you have some personal knowledge of companies that are making conductive tubing apart from Ohio?

A Reusable tubing or disposable tubing?

Q Both.

A In the reusable tubing, I think most of the reusable tubing other than that manufactured by Ohio is imported into this country.

Q And the disposable?

A The disposable, there are quite a number of companies manufacturing conductive disposable tubing.

Q Will you name the ones you are aware of?

A Medicon, Flex-Tube, I believe Pharmaceal, 3-M, Foregger, that's all I can think of right now, Mr. Kaplan.

Q Do you know anyone else that manufactures items of equipment such as the Riker Medi-Haler?

A Breon, Retec, I believe Winthrop has one.

Q By the way, in your $75-million estimate that we had in the respiratory care and inhalation therapy field that Mr. Nickel asked you about, did you include equipment such as the Ricker Medi-Haler?

A Yes.

Q Did you include hand-held nebulizers?

A Not in the sense of the type that you buy at the drug store with or without prescription which would be simply a means of dispensing medication or a broncho-dilator.

Q Are IPPB machines used for dispensing broncho-dilators?

A Among other things, yes.

MR. KAPLAN: No further questions, your Honor.

I'm sorry, your Honor, one other thing, not a question, necessarily. But in the pursuit of our effort to keep everybody well read and well informed, we would like to offer as Exhibit 253 the June 17 Newsweek which contains an advertisement by Owens Illinois, stating that they have recently developed a new technology for inhalation therapy and depicting some of the equipment.

JUDGE BARNES: Let me propose that we just excerpt out the ad and since it is a current issue of Newsweek, I can take the remainder home with me.

MR. NICKEL: Before you do that, may I make an objection?

JUDGE BARNES: We will give it a number and then you can make an objection.

MR. KAPLAN: BOC 253 from Newsweek of June 17, 1974, two pages.

MR. NICKEL: Your Honor, my objection is this: This has absolutely no probative value whatsoeeer. We don't know whether Owens Illinois presently markets these devices in the United States and you can't get it from this document. It has no probative value.

MR. TOPKIS: They spent about $20,000 advertising on it.

MR. KAPLAN: They certainly thought that the could market it because they spent money on it. Time didn't give them the space --

MR. THURMAN: Why don't you call them?

MR. KAPLAN: Call them in rebuttal?

MR. NICKEL: I think you ought to call them in your defense, Mr. Kaplan.

JUDGE BARNES: You are arguing about the weight this ought to be given. I will received -- this is an ad from Newsweek Magazine and I will received it in evidence, RX 253, for whatever it is worth. It is RX 253-A and B.

(BOC RX 253-A and B received in evidence.)

MR. KAPALN: I would also like to offer at this time BOC 229-A through Q which is the 1974 technical exhibit space assignments of the meeting of the American Society of Anesthasiologists. We had the 1973 list yesterday and I wuld simply like to offer this at this time.

JUDGE BARNES: I assume this was taken from the publication and prepared as a list; is that correct?

MR. KAPLAN: I believe this meeting has not yet occurred as far as I am aware, of the society.

JUDGE BARNES: These spaces have been assigned?

MR.KAPLAN: As far as I understand, they have, your Honor.

MR. NICKEL: I am going to object. This is totally unreliable. We don't know whether these spaces have been assigned or not and we don't know whether these people will show up and make their exhibits or not.

JUDGE BARNES: How was the list provided?

MR. KAPALN: By Mr. Lake who rented a booth there. It just seems to me a little foolish to bring Mr. Lake from Cleveland to say that they rented a booth.

MR. NICKEL: I think it is a little foolish to introduce it, Mr. Kaplan.

MR. KAPLAN: I don't think we ought to get into foolish exhibits, Mr. Nickel, we don't have the time.

MR. NICKEL: We don't know how it was prepared, who prepared it, and what it means.

JUDGE BARNES: I will reject BOC Exhibit 229. We have a 1973 actual program that we know occurred and the people who were presumably there. I will reject BOC Exhibit 229 A through Q.

(BOC Exhibit 229-A through Q rejected.)

RECROSS EXAMINATION

BY MR. NICKEL:

Q What companies are engaged in the manufacturing and marketing of the medical equipment that we have been discussing have service forces? You mentioned that Ohio has a service force, does Foregger?

A Are you spaking now specifically of anesthesia, inhalation anesthesia equipment or --

Q That is fine, inhalation anesthesia equipment.

A I believe Foregger has a service organization.

Q Does North American Drager have a service force?

A I don't know.

Q Does Frazer-Swetman, Harris Lake, have service forces?

A I don't know.

Q Does Dupayco have a service force?

A If it does, it is in a very localized area.

Q Are there marketing advantages for a company to have a full line of anesthetic inhalation equipment and accessories?

A I suppose you would say there are two advantages: One, you give the sales representative a broader line to sell and over which you spread your sales costs, selling costs, and from the customer's point of view, perhaps we can call on one company to provide him with any number of products. However, that doesn't always mean that you have the particular product that he wants.

As an example, someone might want to buy the Ohio-- Ill use Ohio as an axample -- may choose to buy the Ohio anesthesia apparatus but yet they may prefer an Air Shields ventilator, which, as I said, is used in conjunction with the tubes for anesthesia.

There may be people who buy the Foregger anesthesia machine and desire the Ohio ventilator.

Q Is it an advantage to salesmen to have a full line of equipment to sell, does that enable them to call on the customer, more regularly than they would otherwise?

A You have touched on a point which is under constant discussion by any company engaged in the selling effort. There are two schools of thought: some companies feel that by having one salesman or a group of salesmen cover a very broad line of product, you are unable to provide them with sufficient technical intelligence or education to sell a broad line, and secondly, they are calling on so many people, using the hospital field as an example, calling upon so many people in the hospital itself, they aren't capable of doing an adequate job on any one.

On the other hand, people feel they would like to have a specialized group calling only on the anesthesiologist and selling a very narrow line of products.

So there are two schools of thought and I am not sure which is right and which is wrong.

Q Of the 40 or 50 people working in Ohio Medical's research and development department, is there a certain number designed to work specifically in the medical markets we have been talking about?

A The markets you were talking about --

Q Anesthesia equipment and respiratory care.

A Generally, yes. There is a group that would be working in the field of strictly anesthesia equipment, and let's say there is one, although our nomenclature is slightly different than the arrangement of products was arranged here, we have another group of people that would work in, let's say, respiratory care products.

Q Well, is the R & D department divided into divisions and each division handles a different area?

A That is correct.

Q How many people would be involved in inhalation anesthesia equipment and accessories?

A Two.

Q Would anybody else besides those two people ever be involved?

Aq Yes. That is why I had phrased my answer to you in that fashion, because you would have a movement back and forth depending upon the effort that you are putting in at any given time in terms of drafting help, for example.

Q Two exclusively are involved in inhalation anesthesia?

A Mr. Nickel, what I should say is not exclusively, but primarily. In other words, they can be moved out of anesthesia into respirators, as an example, if we had a deadline to meet or a particular problem where one of these gentleman are capable of handling it.

Q At any one time is it possible that all 50 people might be involved in an anesthesia inhalation product?

A At the risk of sounding facetious, I would say anything is possible, but I have never seen anything like that in my years in the company.

Q What is the largest number that would work at one time on anesthesia equipment and accessories?

A Again, I think it would be, in the history I can recall, I think it has been two or three. That is the normal complement. There isn't all that much development coming out at one time.

Q That would be on a specific project?

A No, they are working on a number of projects at one time. A good development group cannot operate on one project. They have to operate on a group of projects.

Q You mentioned about five areas in which -- general areas in which research and development is involved; correct?

A Yes.

Q And you testified you would have two or threeinvolved in anesthesia equipment and accessories?

A Yes.

Q How many would be involved in respiratory care?

A We have, as I say, respiratory care is not a specific entity within our development group. Some of them are in the secondary pipeline area which fall into this area, respirators which fall into this area and in inhalation therapy which fall into this area. I can't divide men up in halves and bring them all up under respiratory care at this time. I can't do it because they move back and forth.

As another example, when we work in the area of incubators, there may be somebody who is more knowledgeable in another area that will be brought into assist them in some flow problem in an oxygen system.

Q You mentioned on redirect that you included the Riker Medi-Haler in the $75 million estimate that you gave me earlier as to sales of certain respiratory equipment in the United States.

What about of the $75 million figure would be accounted for by the sales of that Medi-Haler?

A That would be very small because that type of unit represents a very small percentage of that total part of the market.

Q Is it your testimony that you excluded over-the-counter broncho-dilators as being inhalation therapy equipment?

A Yes. We have no knowledge of it. We are not involved in it.

Q What type of equipment does Breon manufacture?

A They make a small hand-held type of --

Q Is that over the counter?

A I'm not sure. I really don't know.

Q How about Winthrop?

A Again, I presume these are prescription. Our handi-vent which we mentioned goes into the home sector, it is prescription, it is supposed to be. That doesn't mean that actually the pateint, the potential patient, walks into the drugstore with a prescription from his doctor. You probably could walk in off the street and ask for a handi-vent in a drugstore and they probably would sell you one.

Q Are the items manufactured by Brion and Winthrop similar tothe handi-vent?

A No, these are a simpler version of -- just a means of introducing antibiotics or a broncho-dilator to the patient.

JUDGE BARNES: Do these devices have the drug already in it or do you buy the drug --

THE WITNESS: You buy the drug as a prescription.

Q You said Dupayco entered the market with less than a full line. When did they enter?

A I believe seven or eight years ago. I don't have the exact date of when they entered -- well, they still are -- they are a West Coast firm and their initial marketing efforts were on the West Coast in the Southern California, Los Angeles area.

Q Have they been extending their line?

A Yes, they have been expanding their line and their coverage.

MR. NICKEL: No further questions, your Honor.

MR. KAPLAN: No further questions, your Honor.

JUDGE BARNES: Mr. Cosgrove, thank you very much.

(Witness excused.)

JUDGE BARNES: We will adjourn until 1:15.

(Whereupon, at 12:15 p.m., the hearing adjourned for lunch.)

AFTERNOON SESSION 1:25 p.m.

JUDGE BARNES: On the record.

MR. TOPKIS: If your Honor please, we will call Mr. Laister.

PETER LAISTER

was duly sworn by Judge Barnes and testified as follows:

DIRECT EXAMINATION

BY MR. TOPKIS:

Q Mr. Laister, you hold a position with the respondent British Oxygen. Will you tell us what that is, please?

A I am now a director of British Oxygen Company and chairman of the subsidiary, BOC Finance.

Q Do you hold any other titles, positions, responsibilities?

A I think I am still chairman of BOC Trans-Shield, which is a British company, and I may or may not be, according to the timing, still chairman of Medishield, the Medishield corporation registered in England.

Q Do you have any positon with Medishield, Inc.?

A No, that is a subsidiary of the Medishield group.

Q And of that you have been chairman, I gather?

A I was chairman until my responsibilities kept me here full-time and Mr. Smith, the group chairman, is going to take over the chairmanship of Medishield. I have been chairman of Medishield since we started it.

Q How long ago was that?

A That was about the middle of '72.

Q Would you start, sir, with any time you may have spent at a university, and trace your career for us?

A Yes. I was at the University of Manchester where I took a degree in chemical engineering. From '56 to -- it must have been '46 to '49.

Q I was just thinking that you look terribly old for your age.

A 1946 to 1949. Then I was called up into national service. I was in the Air Force for two years and then I joined an oil company in 1951.

Q I know a lot of people are ashamed of oil companies today, but which one was it?

A Esso Petroleum, a wholly owned subsidiary of Standard Oil of New Jersey.

Q What did you do for them?

A I started off as a process engineer and in the course of the next few years, held various operating posts, various supervisory posts. I was head of the design department. I became a technical superintendent, cost superintendent after that, the chief engineer, subsequently the assistant refinery manager in Fawley, Southampton, and then I was moved to London to the head office where I became refining coordinator for the company, and then I moved into the marketing department for three or four years where I was general manager of marketing operations.

Q You were in charge of sales --

A Distribution rather than sales.

Q Throughout the U.K.?

A Yes.

Q And that lasted for three or four years?

A Yes.

Q When was that?

A That was up until 1966. I was in London from about '62 to '66. The first year in refining, the next three in marketing. And then I left Esso Petroleum and jointed BOC in 1966, Easter.

Q While you were with Jersey, did you have any -- or Esso -- what was its formal name?

A Esso Petroleum.

Q Did you have any connection with the industrial gases business?

A Yes, I did at one time. I was responsible for the group that had to provide or see to the provision of what we call offsite utilities and nitrogen was one of those requirement and I found myself in the position of negotiating, first of all, with BOC, to get nitrogen to put into the tops of the oil tanks, both crude and other, to act as an inert gas shield. We had been using inert gas generators but we had built new tanks and we needed large enough quantities so we thought we should buy outside supplies of nitrogen. I negotiated for awhile with BOC but decided that the price that they were asking for the product in the late fifties, I suppose, was a little too much and I turned to a newcomer, Air Products, who at that time, had a plant-making business in the U.K. but had built no plant supply sbhemes, and I negotiated, in fact, with Dexter Baker, in England, and eventually awarded them the contract for the provision of nitrogen, and that was the basis of the AP start in the United Kingdom.

Q Was that the first contract they had gotten?

A Yes, it was. In fact, we had thought of building the plant ourselves, we had assessed the process technology involved which was similar to our refining units in several ways, but we in fact went to an outside contractor.

Q You went to BOC in Easter of '66?

A That is correct.

Q In what capacity?

A I joined as chief executive of the chemical plant division which it was known then as, which is the group that makes these tonnage plants in North London, which have been referred to.

Q That plant makes air separation plants?

A Yes.

Q Does it make any other kind of tonnage plants?

A It can make LNG plants.

Q LNG?

A Liquified natural gas. It is perfectly capable of making hydrogen plants because it can make pressure vessels. It also makes various storate vessels as do most facilities like that both for static storage, road tankers and rail tankers.

Q Is there any significant technological distinction between a plant used for the generation of air gases and a plant used for fractionation of natural gases?

A No really significant difference. One design team and factory would be able to do either.

Q Okay. So your first task was with the chemical plant division. How long were you there, sir?

A Until about Christmas of that year, and at that time I was asked by the then managing director, Dr. Goldstein --

Q Managing director of BOC?

A Yes. I was the chief executive just of the chemical plant division. He asked me if I would in fact become -- I beg your pardon. It might have been Mr. Smith who asked me, but it is neither here nor there. I was asked to become the chief executive of a newly formed gas division. I say newly formed because BOC up until 1966 had operated its gases divisions in a functional manner, that is, somebody was in charge of regions, geographically and someone was in charge of marketing, and someone was in charge of production, and it was a very inefficient way of going on. They were bringing all of those together and I was asked to both create this new division and to build it, take it on and manage it.

Q And did you accept that position?

A Yes, I did.

Q What did you do?

A Well, we reorganized it. The profit record of the component parts of that division had in fact been going down over the previous several years. We managed, over the course of the next two years, to turn that profit record around and build it up to a more satisfactory state and to give the division an identity of its own.

Q Do I gather that you stayed with the gases division for two years only?

A Yes, it was only two years because in January '69, Nichol-Gross died most unexpectedly. He was a young man, and Mr. Smith who was the joint managing director left on his own, he was appointed to the position of group managing director on his own by the chairman, Mr. Hutchison, and I and Mr. John Williams were appointed as managing directors and Mr. Hesketh Jones was appointed a director. He was appointed a managing director six months later. The business was divided up amongst the three managing directors.

Q What was your responsibility?

A At that particular time almost everything but gases. I had been looking after gases but as a managing director I was looking after welding, metals, chemicals, food services and what we now know as advanced engineering which we now know as medical.

Q How long did you continue in those responsibilities?

A They varied. As we developed our organization, we interchanged some between John Williams and myself and some of it I retained up until this past March. For example, the advanced engineering responsibility was something that I carried through all those years where I handed chemicals over to John Williams about two years ago, so I could concentrate more on the European development when Europe assumed a higher priority and stzategy.

Q Did you say before that you are in the process of dropping the medical responsibilities?

A Yes. Now I have been asked to act as chairman of BOC finance and that, in itself, is not a large job since it is a holding company, but really to act as the prime liaison in our American affairs both with Airco and with any other activities such as this one.

Q Hence, the term clean-up hitter.

When you speak of American affairs, Mr. Laister, do you embrace both of the American continents?

A At the present time, the development in Brazil is being handled by Chris Hesketh-Jones, one of the other BOC directors. It is in its early phases. Our expectation is that we will stronly consider whoever is sitting in America, to take an overlook position with respect to South America, but that is some time in the future. I don't include it today but it is a possibility.

Q In 1967 I gather you had responsibility for industrial gases; is that correct?

A Yes, that is correct.

Q Did you have any connection with the joint venture that was then established between BOC and Airco?

A Yes, I did. I had a great deal to do with setting it up and I was subsequently a member of the Boards of the two companies that we formed, BOC-Airco and Airco-BOC.

Q Incidentally,speaking of being a director, you spoke of yourself as being a managing director. Does that mean that you are a member of the board of directors of BOC Company , Ltd.?

A Yes. As a managing director you are both a member of the board and a member -- on the managing directors and the group managing directors and the group managing director form the executive committee. Today the executive committee consists of executive directors and Mr. Smith, the chairman.

Q And the executive directors are yourself --

A Mr. Williams, Mr. Hesketh-Jones, and of course the chairman himself.

Q Mr. Smith?

A Yes. Our other direcotrs are non-executive and are outside directors in our terminology.

Q To know who they are, will you tell who they are?

A Sir Geoffrey Eley is the vice chairman. Sir John Crowley is the -- a member of the board. He is an outisde director. Mr. Ian Fraser is an outside director. Sir Owen Wansbrough-Jones. And Lord Elworthy is an outside director. We also, since either March or April of this year, have, as part -time directors, outside directors, Mr. Giordano, the president of Airco, and the chairman of Airco, Mr. George Dillon.

Q Mr. Laister, could you tick off for us, please, the jobs these gentlemen hold when they are not engaged -- that is the outside directors, when they are not engaged as BOC directors?

A Sir Geoffrey Eley is chairman of Tillings, a major British industrial group, it has holdings in a number of industrial areas. It operates companies in a number of industrial areas. He is also, I believe, vice chairman of the British and Middle Eastern Bank.

Q And Mr. Frazer --

A I think I have the title slightly wrong there.

Mr. Ian Fraser is chairman of Lazards of London, which is a merchant bank of the city of London.

Q Mr. Cowley?

A I don't think John Cowley has many active directorships at the moment. He may have some but I don't know what they are.

Q He is retired?

A He is retired from full-time business life, yes. He was in fact a general. So, he retired from the army.

Q Lord Elworthy?

A Lord Elworthy, chief of the imperial general staff and marshal of the air force, he retired from those posts and is now director of two or three other large British companies, including, I believe, BP and Rolls-Royce, Ltd.

Sir Owen Wansbrough-Jones has retired from Wilson, which is a major British chemical company.

Q Mr. Laister, during your years in charge of the industrial gas operations and as a result of the existance of the joint venture, did you come to know any of the Airco people?

A Yes, I did, several of them, very well.

Q Specifically, sir, would you tell me, as of right now, how well do you know Mr. David Craig?

A Well, of the Airco people I got to know him best. I knew Mr. Giordano as a friend, too, but probably David Craig and his family and my family, in fact, got to know each other extremely well. We were on visiting terms.

Q What do you mean by visiting terms?

A Well, if I came to America, I would inevitably either stay with them or visit them, and if he came to England he would certainly come to see us.

Q Did you see Mr. Craig during the spring of 1973?

A Yes, I did. In fact, I am sure I saw him several times. In fact, I think he and his wife stayed with us in early '73 or in late '72. I saw him a number of times in the spring and through the early summer of '73.

Q Well, there has been testimony here, and I believe you were either present when it was given or you read it, as to a meeting that you had with him in June of 1973. Do you remember that?

A Yes, the early summer, which was about the end of the first week of June, June 9 or 10, as I remember it.

Q Would you tell us about it?

A He had rung up a day or two earlier and said he was traveling through London. Airco had business on the continent and they usually come through London, and he had, I suppose, asked himself to dinner. He used to ring up and he always used to come over. So, I had arranged for him to come to the office where I would pick him up and take him home, at about five o'clock he was going to come to the office and wait for me.

Q Now, let me interrupt you for just a second and ask you whether prior in the period reasonably prior to that meeting, that meeting with Mr. Craig, had you had any business discussions in connection with Airco?

A Yes, I had. In fact, I had had, quite coincidentally, business discussions on the same day.

What had happened was that about two weeks, I think it was, earlier, a British merchant banker --

Q Let me stop you right there, sir. Just for this record, what is a merchant banker as the term is used in Britain?

A Well, I suppose, if I could compare it with an American merchant bank, we would call Lazard-Freres a merchant bank or Newport Securities. They are people who are in investment banking but not the clearing banks. It is not like First National City, it is more like a banking house. I am not sure of the terminology.

Q You don't go there to cash a check, but to buy a business?

A That is correct.

Q All right, sir. Now, you were saying that a couple of weeks prior to your meeting with Mr. Craig you had had something about a merchant bank when I interrupted you.

A Yes. I had either been rung up or written to, I don't remember which, by one of the partners in London of Rothschild.

Q What is Rothschild?

A A merchant bank.

The president of their American associate company, Newcourt Securities, which is an american merchant bank, was coming over with one of his vice presidents and that the three of them would like to come and talk to me, and he didn't tell me about what. He said he thought I would like to meet these gentlemen and he thought I would find it interesting.

I said yes, and we fixed a date which was in June, the 9th or 10th.

Q Was there some discussion of Airco there?

A Oh, I'm sorry, yes.

They came in the afternoon, I really can't remember if it was the afternoon or just before lunch, but they came, three of them came, in fact, Mr. Leach, Mr. Bergman and Mr. Bergman's vice president whose name I don't remember. And they asked me if I was aware of the situation in the American stock market. Now, in the early summer of 1973 was when your stock market depression was still news. It had been going down and it had reached levels which were unusual both by American and European standards. Indeed, our own stock market had stayed firmer at that time, since that time somewhat, but at that time, our stock market was firm, and so we were well aware that the American stock market was down and that this was producing some interesting results and possible opportunities.

So I told him, yes, I was pretty much aware of it, we had been following it in general terms. We then had a general conversation in which he pointed out or Mr. Bergman pointed out the indications of this, the opportunities it presented for British companies. I told him we were generally aware of the changed situation, and then he asked me if we were interested in Airco. I told him yes, we were, they were one of our sort of competitors in a sense, although we didn't compete with them directly but they were one of the big names in the world in the gas business, that we certainly were interested in Airco, what news did he have?

And he told me, first of all, their price was way down, that was not news to me, that I was aware of. Then he told me, in confidence, that they had good reason to believe that a bid was going to be made --

Q By "they," do you mean Airco or the merchant bank?

A The merchant bank told me that a bid was going to be made by somebody whom they did not name, and they wither could or would not name them. I asked them who it was, but they wouldn't tell me, they said a bid was going to be made for Airco shortly. I was interested. I mean, I asked them question about it but I got little more information from them about that, but they were very confident about it. They were pretty positive. In fact, I still don't know the basis of their information, but we subsequently, within the next two or three weeks, had the same information from other sources. But, at that time they were the first people to bring that news to us.

Q Have you now told us the substance of that conversation at that meeting?

A Well, the last thing I said to them was, well, it is a strange thing, but I am in fact taking one of the Airco vice presidents home to dinner tonight, so I'll go into it a little bit.

Q This was the same day that you were meeting Mr. Craig?

A Yes, it was actually the same day.

Q All right. What happened then?

A That same afternoon, I immediately told Mr. Smith what I had learned and I also talked to Paul Bosonnet who is our director of planning and finance, he is not a member of the board, but he holds the title and post of director of finance and planning, and I told him what I had learned and I asked him to set in hand a study of the implications for BOC of an Airco bid. That is what was involved in somebody else's making a bid and what were the factors of special interest to us, because quite obviously the first thought that went through my mind was, this changes the whole game, this is an almost unique opportunity, and we had better look at it pretty quickly.

So, I passed this information on to him and he started work on that project almost immediately.

Q And what happened -- I take it that night --

A That night I saw Craig. In fact, I talked to him in the car going home and I felt some difficulty in mentioning to him directly the news I had gotten from the merchant bankers. They certainly had not said I shouldn't mention it at all, because I told them I was seeing Craig. I didn't just want to say to

Monday, that first of all, Airco had -- well, first of all, Airco were thinking about the possibilities of a takeover bid being made or else he wouldn't have reacted so quickly, and secondly, they had been giving some consideration to it, obviously. And also, my conversation with Craig --

MR. THURMAN: Your Honor, we object. This is hearsay. It is on the record, anyway, I believe.

MR. TOPKIS: I will ask the witness to move it along, your Honor. This is in the record, but I thought your Honor might benefit from having it -- since this was kind of a two-part operation, Mr. Smith was doing part of it and Mr. Laister the other part, I thought it might be useful to have both versions of the story, but --

Q Mr. Laister, if you would move it along, please.

A Well, Mr. Craig had spoken to Mr. Giordano after my conversation with him, so it had struck some sensitive spot, that discussion.

Q What happened then, sir? There was a conversation between the chairman and Mr. Giordano, and then --

A Discussions within the BOC executive committee and the BOC board, and we started preparing data, including having discussions with the merchant bank, Lazards, with respect to the considering whether we would or would not make a counter bid.

Q Let me ask you to take a look at Documents CX 72 and

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Craig, "I hear you are getting a bid." It needed a little thinking over.

I asked him in general terms abo their share price, and I said, "Don't you feel vulnerable, aren't you vulnerable to a takeover bid?" And he said, "Well, we had thought about it, it could happen." We talked in those sort of terms without mentioning anything specific at all, and then I arrived home and we dropped the subject. We didn't discuss it over dinner at home with the family, and I didn't tell him that I had heard that they were going to get a bid, and I didn't tell him that I had seen these merchant bankers. I just asked him questions along this general line.

Q What happened then?

A Well, obviously, we continued with out study and we discussed it amongst the executive committee members that if there was going to be a bid in the near future, then what should we do about it, in fact, should we do antything, was obviously the first question, and this is why we wanted the study done quickly. If we were to do anything, what should we do? Should we make a counter bid? We just didn't know at that stage. And the next thing that happened, positively, was that Vincent Giordano rang up Leslie Smith, I think he had been to Sweden and he wanted to know if he could talk to Leslie Smith, and he did so, and it was quite clear from that discussion which Leslie Smith told me about on the following

CX 73, and ask you whether these were documents which were generated in the course of this investigation that you said you were making at this time.

A Well, CX 73-A, the first one I am looking at, certainly is. Mr. Dinkle worked for Mr. Bassonnet, he reported to him and this was some of the quick preliminary work that they had produced. The next one --

Q The next one being 72?

A CX 72 of the same date, concerns data on Airco, it is clearly part of our research effort and it is obviously produced in a hurry because part of it is handwritten.

Q I will then show you a document numbered CX 77 and ask you if that was prepared as far as this investigation, too?

A Yes, this is some further information by Mr. Rich.

Q This document, what date does it bear?

A 29/6, which is the 29th of June. We always put the day before the month which in England we think is much morelogical.

Q I will ask you the same question about 76-A. CX 76 as a whole, which is dated June 29 also.

A Yes. This is another planning study. I should emphasize here that this is a draft paper and this represents papers produced by our planning people which are not executive papers at all. They are for consideration by the executive committee to which this one was addressed, chairman and the managing directors form the executive committee. We look at it and we make the decisions.

Q I will ask you about CX 75 and 79, were they also prepared as part of this quick investigation?

A Yes. CX 79-A certainly was. It is again from Harold Rich and CX 75-A is further analysis of Airco.

Q So all of these, just to wrap it up, all of these studies were put together against the possibility that you might have to move very fast; is that it?

A Yes.

Q It didn't turn out that way, did it?

A No, it didn't. In fact --

Q What happened --

MR. TRUEMAN: He has already led, but --

JUDGE BARNES: I don't think that was very damaging. Proceed.

A What happened then was that the chairman of Airco, Mr. Dillon, met Mr. Smith and as a result of that meeting, a working party was set up. The time scale was that the working party -- no, I beg your pardon. I am leaving out quite an important meeting. I think as a result of the Giordano-Smith meeting, it was agreed that the two companies would exchange information about each other because we had a certain amount of data but both companies could do with a sort of quick up to date appraisal of one another. So it was arranged that John Williams, the other managing director, and myself, plus Mr. Bassonet would go to New York and meet there with Airco executives and we would exchange basic information about each other's operations so that would -- we could get more familiarity with what we are talking about, and this we did.

Q Let me show you --

A In July, we went.

Q Let me show you document CX 301 which has been received in evidence in camera, and I will observe that it is dated July 23, 1973, and ask you to tell us, please, what that document is and what was done with it.

A Well, this is the document -- it has some data -- there are some blanks of it --

Q Yes, it is an excised version of a document. You are absolutely right.

A This is the document we took to New York to show to the Airco peple to tell them about BOC and the information it contained was, I think, a four-year history and a five-year forecast of our business. The forecast of our business -- the document was put together in this partkcular form especially to take, but the data from the -- I'm sorry, the data that went into it was data that had been prepared within the group by the various divisions or by the central planning group as part of their strategy forecasting work. But, it was put together in this form to take to America.

Q So, if I may make sure that I understand you, sir. the data were not prepared expecially for this purpose, they were already in existance and they were assembled for the purpose of transmitting to Airco; is that correct?

A That is correct. It may have been some small part of the data that the planning people added up in that particular way, shape or form for that document, but basically it was in-house data available either from our files, which is the history file, or our strategy review which had not taken place.

Q Now, I will ask you to turn your attention -- first, this document was turned over to Airco; is that right? In late July?

A They certainly saw it and I believe they actually took away a copy. But I can't quite remember whether they took it away or whether we collected them.

Q Now, I will ask you to turn your attention to page 301-K which bears on the top the legend, BOC Group Average Capital Employed, and I will ask you to turn your attention to the line about a third of the way down the page which is marked "America." And would you tell us, please, what part or parts of the Western Hemisphere does that embrace?

A That would include Canada, North America, and South America.

Q And the figures that are in pounds sterling?

A Not in pounds, they are in millions of pounds sterling.

Q And under "Forecast" --

MR. TOPKIS: I am not sure whether the copy in your Honor's possession is legible as far as the years are concerned. Is it, at the top?

THE WITNESS: The last year is 77- 78.

MR. TOPKIS: Can your Honor make that out?

JUDGE BARNES: No, I cannot.

THE WITNESS: They are there for each year.

Q And that is true, generally, of all of these forecast lines, that is to say, the terminal year is always 77-78?

A Yes, it is.

Q So these were the forecasts that you then had in mind as matters stood in July of 1973?

A They were the best forecasts that we had available for the future.

Q After the exchange of this information with Airco or after turning over this information to Airco, what happened then, sir?

A They gave us some information but their information was in fact the same sort of history but the projections were just straight-line projections. We did receive similar information so we took copies away and considred it following that, Mr. Dillon who is in touch with out chairman and it was decided that a group would be set up to look at the methods of bringing the two companies closer together, really, in as general terms as that. We didn't specify that it would be by purchase one way or the other, by cash, by share exchange, by merger. It wasn't settled, it was left kind of open for this little group to study.

Q Do I gather that the group during the ensuing months undertook to study this question?

A Yes; at a critical point the whole thing was interrupted by the Curtis-Wright bid.

Q Tell us about that, please.

A I was in -- it was late September, I know it was after September 22 because I know my house had burned down on September 22, so I know it was in the other house where the telephone came through. Giordano rang on a Sunday to say that Curtis-Wright had appeared on the scene with a statement that they intended to make a tender offer. He gave me the background as much as he could to this situation and asked me to pass that information on to the chairman who was in Australia.

I did so. I immediately got in touch with the chairman and he decided he would come back to England from Australia to join in the discussions.

Q And what happened then?

A We came to New York and held discussions with Airco and I made one or two visits in the next two weeks, and started to discuss the possibility of our making an alternative cash bid if Curtis-Wright were going to bid, and obviously we also called our own board together and also we stepped up the work that we were doing, the speed of it, and the content, in terms of what was involved in a cash bid, both in-house and --

Q Well, in September, Curtis-Wright actually made no bid?

A They walked away. They were told that there were discussions --

Q Excuse me. You are getting into hearsay and I will anticipate my friend's objection.

In any event, they did not make a bid?

A No, because we had been on the scene.

MR. TOPKIS: I will move to strike the last.

Q They did not make a bid?

A No.

Q You resumed your studies and then there did come a time when they did make a bid; right?

A Yes.

Q Tell us about it.

A There was a gap and then we were informed that they had not stayed away, they had appeared with a firm bid for, I believe, 20 or 25 percent at a price of $18 a share.

Q And what did you do, sir?

A We went into top gear. We didn't, at that time, have arrangements for the money. Our board was brought together, there were many discussions as to what action we should take and eventually we had made sufficient progress that we were able to decide to make a bid, and we cleared it with the Bank of England and the treasury and after the Curtis-Wright was open for about a week, it was a two-week tender offer, we went in for a bid of 3 million shares at $20 a share.

Q And you were able to acquire 4 million shares as a result of that?

A It wasn't just as a result of that, Curtis-Wright raised their bidding to 51 percent, but they didn't raise their price. We raised our bid volume from 3 million to 4 million shares and succeeded in having tendered to us substantially more than the 4 million shares we said we would take. That was at the end of December.

Q Now, Mr. Laister, through the period 1970 through 1973 you were at all times a director of BOC?

A Yes, I was.

Q You are familiar with the Perham-Greenfield report?

A Yes, I am.

Q After the Perham-Greenfield report was received and considered and before the meeting which you had with merchant bankers which you have mentioned here today, did BOC have any intention whatever to enter the U.S. gases business either on a Greenfield basis or by acquisition?

A There was no intention. Quite the reverse. We were quite determine, we decided when we had read the Perham-

Greenfield report, that we would not enter on such a basis.

MR.THURMAN: I move to strike as his opinion. There must be some documents for this policy planning which we could use which would be the best evidence of BOC's intention. If he was a managing director and saying that is the basis of his thinking, we would have no objection to it. I am sure a corporation such as BOC doesn't make a decision like this without some kind of documents.

JUDGE BARNES: I think this is a matter for you to discuss with him on cross-examination.

M MR. TOPKIS: Your Honor, so you will understand my next question, I direct your attention to an exhibit in evidence, CX 293, and it is a report to British Oxygen stockholders of this acquisition, and I want to refer to it now, just to draw your Honor's attention to the fact that it reveals that BOC borrowed the money with which to make this purchase on terms which at first were -- average 11-11/16 percent but then dropped to 10percent.

Q Now, Mr. Laister, having that figure in mind and having another record fact in mind here, namely that Airco has been paying dividends on its stock at 80 cents a share, I will ask you to explain to his Honor, if you can, why it was that Airco's stock at $20 a share was a sound investment for BOC.

A It is quite easy --

JUDGE BARNES: Is this going to be Mr. Laister's own opinion or is this the company --

MR. TOPKIS: I will be content with Mr. Laister's own opinion, your Honor.

JUDGE BARNES: All right.

A We paid $20 a share for the stock and you mentioned the Airco dividend of 80 cents. In actual fact, the Airco earnings were $1.66 last year and if we would work on $2, because our expectation was that it would grow from $1.66 and we certainly thought $2 was a reasonable expectation, and the arithmetic was easier.

Q All right.

A So, with $20 a share, we were earning $2 a share, and since we owned over 20 percent of the Airco stock, it is our custom and practice to consolidate earnings and not just merely to consolidate dividend.

Q Continue.

A That represents a 10 percent return after Airco had paid its tax.

Q Its corporate income tax?

A Yes, so that is $2 earnings after tax.

JUDGE BARNES: The earnings you are referring to are after taxes?

THE WITNESS: Yes.

Q $2 a share earnings after tax?

A Yes.

Q That is the corporate income tax that every other American --

A This is $1.66, your Honor. I am just using $2 because it is easier to follow.

Now, we have paid $80 million plus expenses and working on $80 million, we were paying 10 percent interest on that, which was -- that 10 percent interest is in fact really before tax allowance. So we were earning 10 percent after tax and we were paying 10 percent before tax allowance, and hence, in fact, you have a margin of profitability against earnings.

Now, in terms of cash flow, short term, you are a little out on cash flow. If your Honor would like I can show it to you on the blackboard.

The cash pertains to the minimum and the cash interest paid. But, nevertheless, it represented a very sound investment for the BOC shareholder. The cost was more than covered by the earnings from Airco.

Q And that was because you could consolidate your --

A That is because our practice is, as it is here, I believe, to consolidate -- above 20 percent you consolidate the full earnings.

Q So you could take into account as part of your earnings the $2 per share approximately that Airco was earning?

A That is correct. That $2 after tax represents something nearer to 20 percent than 10 percent before tax, which you can compare with 10 percent.

JUDGE BARNES: So you had an earning of 10 percent after taxes and an expense of --

THE WITNESS: Let's say 6 percent after tax, something like that.

Q Possibly even 5 percent?

A Yes.

JUDGE BARNES: Is that because your interest was --

THE WITNESS: You can set it off against corporate -- corporation taxes.

Q Under British law?

A Yes.

Q Do I gather that this came about because Airco had already paid American taxes on its earnings?

A Yes. You are not asked to pay taxes twice as there is a double taxation agreement between the United States and the U.K., so one does have some margin because of this at the earnings level.

Q Well, having in mind, sir, the teachings of the Perham-Greenfield report which you read and adopted, what persuaded you personally to favor the Airco deal other than the fact that it wouldn't cost you anything?

A It was a good investment, that is the first point, and I think if it had been a bad investment, then the decision might well have been different.

The next point is that we are an international company but in an international sense we were incomplete. We were not operating in America where three of our international competotors, Air Liquide, Union Carbide and Air Products, for emample, operate.

America had always been or has always been the largest market in the world in this product area, and it is one that we have never neglected. We turned away from it because it wouldn't be a sensible thing to do, but we never neglected it and felt that it wasn't an important market. This was a unique opportunity. We had not been able to foresee the facts that such a company as Airco would in fact be open for bid and I might add that we were never prepared to enter into such a major acquisition in the face of opposition from the board of the company that we were acquiring. If it was contested by the board we would, as a matter of policy, not have gone forward.

In this particular case, the situation was that the Airco management and ourselves had at least been looking at the problem before the situation arose before we actually had to make a bid, that was in the preceding weeks. So, we were on a better basis in dealing with the management.

I think that there is opportunity between the two companies, we can add something to each other. In the welding field, for example, there is some technology spin-off, I am sure, there is benefits to be gained on both sides.

In the medical field, I am sure long-term benefit is possible. We have an international medical business, Ohio had a domestic medical business, I would hope that we would be able to provide some export for some of their product areas.

They knew something about the metals business, we are in metals, but a different sort of end of it. There is some relationship.

Most of all, it was in a business with which we were familiar. This wasn't like a glass bottle company coming up for sale in America and our considering it. This was a business with which we were familiar and we felt we had something to offer it in management and in purpose, and I suppose perhaps last of all, in the back of our minds, we perhaps might have thought that with a third of private British industry in American hands, we perhaps were going the other way a little bit.

JUDGE BARNES: A two-way street?

THE WITNESS: We figured it ought to be, your Honor.

Q All right, sir, let me turn your attention to another question, if I may. During the years, well, I will make it broad -- during the time from when you joined BOC until the time that you made the bid for Airco's stock, did you ever contemplate the possibility of using CANOX as a vehicle by which to enter the United States gas market?

A No, not at all. The idea is almost ludicrous.

Q Will you tell us why?

A Well, CANOX is a distributor, it has no production.

Q In has one air separation plant, does it not?

A I'm sorry, perhaps no production was an extreme statement. I don't regard, in the field of major area gas businesses, a 25 ton plant as production. I know it is, in reality, but it has one 25-ton plant in a marketplace where there are thousands and thousands and thousands of tons of capacity in America. It doesn't have the management, with all due respect to the very able peopoe who manage Canox, their job is to deal with Canada and certainly there is not the quantity of management to deal with the problem.

Thirdly and perhaps most important of all, we would not, as a policy, have entered such an important market as Canada, such a well-developed marked -- I'm sorry, as America, such a well-developed marked as America from a market such as Candda which is really relatively less well developed.

Q In the course of your responsibilities, sir, did you become familiar with the history of CANOX?

A Yes, I know the background, general background of the formation of CAMOX.

Q Could you trace it for us quickly?

A Well, very basically, it started not long after the second world war as a small distribution operation which really failed miserably for several years and they had to strengthen the management and make a number of acquisitions, I think about three, before even as a distributor it statted to become, even possible to think that it might be viable.

After the first 10 or 12 years of its operation, it was netting somewhere between 1 and 2 million dollars in accumulated losses and it has now grown to the size where it is now profitable but it took about 15 years to reach what we would call a viable position in a market which really wasn't very well developed at the time, although it was strongly impàlled by the competition.

Q I am now going to ask you about another couple of companies and we will be turning to the medical area.

In connection with your duties as chairman of Medishield, did you become familiar with Frazer-Swetman and Harris Lake?

A Yes.

Q Harris Lake's plant is in Cleveland?

A Yes.

Q What kind of plant does it have there?

A An assembly shop. It is about 8,000 square feet of total floor space and it is an assembly shop. An assembly shop plus offices plus warehouse all in the 8,000 square feet. It takes components and it puts them together. It doesn't manufacture anything except trivia. It assembles components from people around it, in its area, and components that it purchases, say, from Cyprane, it assembles those into anesthetic machines and acts as a distributor for a number of producers and it warehouses those products out.

Q You say it acts as an assembly shop in assemblying anesthesia machines. According to this record, in 1973 it is stipulated that Harris Lake sold $193,000 worth of anesthesia machines. Is it your testimony that none of those was actually manufactured by Harris Lake?

A It depends upon your definition of manufactureing.

MR. THURMAN: He was talking about what Frazer-Swetman did. Was he talking about Harris Lake?

THE WITNESS: I was talking about Harris Lake. My last little bit of testimony all concerned Harris Lake. Mr. Topkis said do you know about Frazer-Swetman and Harris Lake, and I said yes, and then he started to ask me about Harris Lake.

MR. TOPKIS: That is correct.

Q These machines, these $193,000 worth, none of them were manufactured by Harris Lake?

A It jobs out the metal work and it buys in the components and assembles them. Now, I am not a machine shop man, but that I call assembly at any rate in my terminology.

Q Do you know how many salesmen Harris Lake has?

A I think it has three.

Q Now, it is stipulated here also that Harris Lake sold $301,000 worth -- I'm sorry, my friend reminds me that I have approached the in camera, your Honor.

Perhaps since the figures are so slight they didn't bother me too much.

It is stipulated here that Harris Lake had sales of inhalation therapy equipment last year. Do you know if it made any of that equipment?

A My understanding is that it did not. It purchased it, almost all from American suppliers.

Q Do you know how many salesmen Frazer-Swetman has -- I'm sorry, excuse me, please. Yes, how many salesmen Frazer-Swetman has?

A He did have three or four but we have had, in the lawt few months, we have added four more people concerned with sales, but they are all concerned with the the sales of orthopedics.

Q They are employees of Frazer-Swetman?

A Yes, but they have been added recently because we want to use Frazer-Swetman to develop the sale of orthopedic parts.

Q Is Harris Lake today being operated as a separate entity or is it being operated as part of a larger entity?

A It is managed as a completeley separately entity. Its facilities and its staff and the way it operates are the same, essentially, today as they were when we purchased it late last autumn. The only difference is that the president of

Harris Lake, George Lake, reports to Bill Moeller for coordination purposes, who is the president of Medishield, Inc.

Q But aside from that it is a completely autonomous organization, I assume?

MR. THURMAN: I object to the testimony by -- the leading by Mr. Topkis.

MR. TOPKIS: I will strike it.

Q Do you happen to know, Mr. Laister, who does Harris Lake's servicing?

A The distributors or dealers that they sell through do almost all of the servicing.

Q Does Harris Lake make the greater part of its sales direct to hospitals and doctors and what have you, or does it principally sell to dealers?

A It has to go through dealers for the major part of the sales.

MR. THURMAN: It appears to me that thereought to be a foundation laid. I move to strike.

JUDGE BARNES: I think we should have a foundation here. These may be important questions and we have to know -- I have also noticed Mr. Laister's answers have been a little vague for the major part, and --

MR. TOPKIS: I will develop the witness' familiarity or lack thereof, your Honor.

Q How is it that you have any familiarity with the operations of Harris Lake and Frazer-Swetman?

A Two reasons: I was involved in the purchase negotiations for both, to some extent, and secondly, as chairman of Medishield, they both, of course, were part of the company for which I was responsible. My atea, as chairman, of course, was not that of the chief operating officer. I was not a chief operating officer and thus I am no absolutely with the absolute veto.

What I do know is the genwral form in which those companies operate and I know about their size, I know about their way of operation in general terms. My answers -- I am aware, certainly, of the general situation.

Q Now, you have described how Harris Lake is and has been managed since you acquired it last year. Can you tellus, please, the degree of autonomy, if any, that the Frazer-Swetman operation has?

A Of course they don't have financial autonomy. They have a budget now for their funds that comes through th the parent company of Medishield. They are allowed freedom in terms of management, most certainly. Bill Moeller has had more to do with Frazer-Swetman than he has with Harris Lake, because Frazer-Swetman has lost money as long as I can remember, and it needed more management attention to help support it. That is being provided. But, it is operated as a separate facility.

Q You acquired Frazer-Swetman by reason of your acquisition of Cyprane this record reveals; is that correct?

A That is correct. We started negotiations for the purchase of Cyprane and at that time we were particularly keen to get the Keighley factory in Yorkshire in England -- K-e-i-g-h-l-e-y --

Q Just so there is no confusion, when you spelled that you didn't leave out a T in that word, there just isn't one, is that right?

A Yes. They make vaporizers, that is all they make. It is a specialized product and they sell a good deal of the output of those vaporizers through the Frazer-Swetman companies in Canada and in America.

When we started negotiating, we were negotiating, in fact, just for that U.K. part mainly, but a competitive bidder came on the scene after the negotiations had proceeded for some time and in the end we had to make a sealed tender offer for the whole of the company, so we ended up with the Cyprane operation and the Canadian and the American Frazer-Swetman operations, and we hold them 100 percent.

Q In making the acquisition, was your objective to handle Frazer-Swetman or was your objective to obatin the Cyprane vaporiser?

MR. THURMAN: Objection.

A We wanted to bbtain the cyprane vaporizer.

Q Going to CANOX if we may for a moment, dir, does CANOX buy or produce such inhalation therapy equipment as it may sell?

A It purchases it.

Q From whome does it purchase it?

A Mainly from Bird, an American corporation.

Q That is the Bird Company of California?

A That is correct. I think that is where they are located.

Q It doesn't buy inhalation therapy equipment from BOC?

A BOC has all its production that is exportable centered around the factory in the U.S. and our therapy equipment is relatively a small business for us and it is very old-fashioned because inhalation therapy equipment or therapy in England has never become the operational business or whatever the word is as it has in America. The British medical profession have never taken to it in the same way. They don't agree with the idea that it can be administered as a toutine by therapists, and hence, in the U.K., we sell relatively little equipment compared with the sort of sales that are made here in proportion to other medical areas. And all of the therapy equipment in the U.S. is purchased by hospitals because they do all the therapy under direct supervision of a doctor in the U.K. medical profession. You must remember, being a nationalized medical profession, it has a uniformity in the way of operation that you sometimes don't get in a free medical world.

Now, we in fact, even in England, don't make all the therapy equipment that we sell. We actually buy from Bird in England. Our Australian company doesn't buy U.K. therapy equipment, it buys from Bird. Our South African company doesn't buy U.K. therapy equipment, it buys from Bird. Our Canadian company does. We really have a pretty poor position in therapy.

JUDGE BARNES: We will take a five-minute recess.

(Recess.)

BY MR. TOPKIS:

Q Mr. Laister, I was just about to ask you, does BOC make rubber or plastic tubing or accessories?

A No, we do not.

Q Now, I would like to show you CX 103 --

A Could I, on the last one, say that we make a very specialized plastic extruded needle in a Swedish factory which we bought about a year ago, but it is a highly specialized form of plastic technology.

Q I will show you a copy of CX 103, Mr. Laister, and I will just ask you a couple of questions about it. Are you familiar with that document?

A Yes, I am.

Q Was that document ever accepted or adopted by Medishield?

A No, it was not.

Q What is it?

A Bill Moeller, who is the president of Medishield, Inc., the unit tying the American and Canadian companies together, produced, mainly of his own volition, his objectives for the next five years. He would have been asked to do so in the course of time in any event, but he produced this last October after he had only been with the company about eight weeks, and this represented his sort of first view of what he thought might be achieved.

Q Let me ask you whether the figures there, according to your understanding, include Canada.

A Yes, they do.

Q And do they include with the ongoing --- Let me put it differently.

Is it BOC's practice throughout the group in drawing up forecasts such as these, to make allowance for inflation?

A We --

MR. THURMAN: Objection, your Honor. If this was Mr. Moeller's ideas --

THE WITNESS: They were submitted to me. They came through the system.

MR. THURMAN: For what purpose?

THE WITNESS: For information. They camethrough the system from Mr. Ray, who was the chief operating officer of Medishield. They were given to me for information and I discussed the background of them with Mr. Ray, and I also discussed the background of them with Mr. Moeller.

Q And against -- in the light of that, can you tell us, sir, whether these figures include an allowance for inflation or do they not?

A They include four factors.

MR. THURMAN: I will object on the hearsay basis. It is what he is told --

JUDGE BARNES: I think itmight be hearsay.

Perhaps Mr. Laister can tell us what the BOC policy generally is.

MR. TOPKIS: I will be content with that, your Honor.

JUDGE BARNES: All right.

A The BOC policy in making forecasts of this type would be to include the geographical territory specified. So whatever geographical territory was specified, they would include thos figures. It would include normally an inflation rate which, of course, these days is quite an important factor. The figures would include that.

The particular figures would also make estimates which take into account normal market growth rate depending upon the product area, that estimate would be made either by the man preparing the figures or occasionally would be defined by the planning office at the center. And they would also include any acquisitions that the management felt should be included in his 5-year strategy. If he was uncertain of the acquisition, he would either leave it out entirely -- when I say "uncertain," perhaps that is too strong a term.

Acquisitions are sometimes included and sometimes defined separately and sometimes left right out. It is defined when we look at the figure, we know which it is.

Q This document speaks of a certain increase in your orthopedics activity. Do you see that?

A Yes. That was one of the main reasons for recruiting Mr. Moeller. So, that was a matter of some interrest. I was directly involved in his recruitment.

Q I would like to show you, Mr. Laister, another Moeller plan or program, this is BOC RX 70, and I will ask you if you can tell us what this is.

A This was a proposal drawn up by Bill Moeller before he joined BOC after he had left his previous company, and while he was trying to develop some business interests of his own. In conjunction he talked with Frazer-Swetman and was drawn up in conjunction with him as a proposal for BOC to consider as a joint venture.

Q That was not adopted, was it?

A No.

Q I am going to show you CX 50, which has been received, Mr. Laister, a memorandum addressed to yourself and Mr. Ray dated the 9th of October 1972 by R.W. and I will ask you what that is, sir.

A R.J.W. is Mr. R.J. Williams who was recruited to the English Medishield in about September.

It must have been earlier than that. It was the summer, at any rate, of -- the early summer of 1972; maybe the middle of the summer. I am vague about the date, but it was in the middle of '72. He was recruited to deal with some of the marketing problems of Medishield and he was recruited from the office furniture industry and he didn't know anything at all about the medical business.

It was decided that as part of this training program,he would spend two or three wekks in the U.K. getting some general background and then he would go for a number of weeks to an overseas subsidiary or an overseas company and receive training.. This was agreed between myself and Mr. Ray. The place selected for him to receive training was Canada, and America. He was asked to prepare a report of sort of his view of the American market as part of his training exercise, and this he did, in this document.

Q Was this document ever adopted or any formal action taken in connection with it?

A There was one piece of action that arose out of it because, in fact, the commitment had been made. The majority of the action, in fact, was not and never will be acted upon such actions as the board changes and the organization changes and indded most of the market proposals. It was quite surprising, the man had been in the business four or five weeks, actually. There was one action that we were committed to and indeed raised a possibility that we followed up was the action with Chemitron.

Q What is that, sir?

A He had made contact with a vice president of Chemitron and had discussions about a joint venture or some sort of joint operation and --

Q In what field?

A In the medical field. Mr. Ray thought this had possibilities, I did not. But, nevertheless, it was a vice president of Chemitron and in fact, since Mr. Ray and I were going to America in January of '73, we arranged during that trip to visit Chemitron and follow up the possibility to see if there was anything in it at all, and the meeting was held with Mr. Gallaher, president of Chemitron. We had about an hour's discussion, a short lunch and that was the end of that, there was nothing.

Q Nothing further was done?

A No, sir.

Q Now, sir, just a few other details and we are done.

There has been testimony here about two British companies, U.S. companies called Eshman and Fraklin. Are this names familiar to you or not?

A Eshman I do not know, Franklin I do know.

Q Do you know whether Franklin is owned by any other company?

A I am sure Mr. Thurman will say it is hearsay, but my understanding is that it is Warne.

MR. THURMAN: Objection of the grounds of hearsay and no foundation.

JUDGE BARNES: We will strike it.

MR. TOPKIS: No matter.

Q Let me ask you this, Mr. Laister.

Are there, to your knowledge, any companies which are in the industrial gas business which are not in the medical equipment business?

A Yes.

Q Could you name then, could you name those that you know of?

A Well, Messer-Gresshein aren't, Linde of Germany are not, and Big 3, they are not. Many of the small gas companies don't play any part in --

Q I don't mean Alabama Oxygen or anything like that, but how about Liquid Carbonics?

A I really don't know. I don't believe they are.

Q How about Chemitron?

A Chemitron are.

Q Do they manufacture or sell?

A I really don't know. They certainly sell. I don't know if they manufacture.

Q How about Union Carbide?

A I don't believe they are in it, no.

Q Now, are there any welding equipment companies which are not in the gas business?

A Oh, many. Yes, there are. Most of the welding companies are not in the gases business.

MR. THURMAN: I object to this, there is no foundation.

MR. TOPKIS: This man has been in charge of welding for BOC for years.

MR. THURMAN: In the United States?

MR. KAPLAN: The question was not so limited.

MR. THURMAN: I object to the form of the question then if it was not --

THE WITNESS: American companies sell in Europe where I have been in charge of welding who are not in the gas business either in America or in Europe. Such a one would be Miller, Miller Electric or Lincoln.

Q Eutectic?

A Eutectic is one which operated in both the U.K., Europe and America, and is not in the gas business, and there are an enormous range in each area of welding, of companies, in Europe and I am sure the same is true in America, who are not in the gas business.

Q Let me ask you whether there are any medical equipment companies which are not in the industrial gases business.

JUDGE BARNES: Is this going to be in the U.K.?

MR. TOPKIS: In the U.S.

Q To your knowledge.

A Yes.

Q Are they small or large, to your knowledge?

A They are a large number. The vast number of medical equipment -- you asked about medical equipment in the broad term and there is about $800 million of sales in America and none of them are in the gas business.

MR. THURMAN: Objection. I move that that testimony be stricken on the basis of relevancy.

JUDGE BARNES: I think Mr. Topkis things it has some relevance and apparently --

MR. THURMAN: Apparently he didn't form the question properly. We don't care if a pharmaceutical company sells aspirin.

JUDGE BARNES: We will give very little weight to that then.

MR. TOPKIS: Your Honor, Mr. Laister, we are done.

Thank you very much.

JUDGE BARNES: Well, we have a half hour that we can devote to cross or we can stop now.

Off the record.

(Discussion off the record.)

JUDGE BARNES: Back on the record.

We are going to have cross examination of Mr. Laister, Airco direct, if any, Tuesday morning in Washington. We will meet at ten o'clock. You can call my office and find out where the hearing room will be. So, we will meet in Washington, D.C., Tuesday, June 17, at 10:00 a.m. and we also had some discussion off the record about possible rebuttal and it has been agreed that complainant counsel will notify respondents on June 24 of the scope of any rebuttal they will present and that we will reserve June 26, 27 and 28 for rebuttal hearing dates.

It was also indicated in the discussion off the record that respondents defense will consist -- remaining defense evidence will consist of cross examination of Mr. Laister and calling Mr. Dillon as a witness and there are some few ehixibts which respondents have not offered including the material which complainant counsel turned over to them subject to the Commission order, recent order.

MR. TOPKIS: There is even the possibility, your Honor, I don't want to eliminate it, that some of those documents which we haven't gotten may require identification or testimony by a witness. I don't know, but I certainly hope not.

Now, your Honor, could I just offer the last exhibit of which we are currently aware, and that is BOC RX 208, which is a document prepared by the Department of Commerce entitled

U.S. Industrial Outlook, 1974.

JUDGE BARNES: Any objection, Mr. Thurman?

MR. THURMAN: We object to it unless you want to take judicial notice, there are estimates in here and opinions without any basis. We certainly couldn't use these figures are being factual when it states it is estimates.

JUDGE BARNES: All right. I will receive BOC RX 208-A and B in evidence and take official notice of the information contained therein.

(BOC RX 208-A and B received in evidence.)

JUDGE BARNES: Mr. Thurman?

MR. THURMAN: Your Honor, may I ask your Honor to reconsider this on our rebuttal, if any, but I would like, while it is fresh in your Honor's mind, I would like you to note what respondent has put into this record and ask your Honor to reconsider CX 305-A through Z26 that is in the rejected file which is a preliminary prospectus dated May 1, 1973 of Liquid Air Corporation of North America, and bring it to your Honor's attention that this is submitted under penalties of law.

MR. TOPKIS: No, it isn't, as a matter of fact.

MR. THURMAN: If it is false information here, it could go to the SEC and there certainly would be penalties involved, which certainly has more reliability than books showing that somebody went to a meeting or an advertisement in Newsweek or material of that matter or even industrial reports which one witness stated that he used -- Moody's industrial manual which he said he used as the basis for his knowledge, from Moody's. This should, in complaint counsel's opinion, have a great deal of reliability.

JUDGE BARNES: Don't we have in the record, Liquid Air's annual reports?

MR. THURMAN: Your Honor, this is more than an annual report. It gives more information than an annual report and this certainly is relevant to this case as Liquid Air is a company situated as BOC prior to entering this market, actually entering the market and gives complete information on more complete information on what is happening to their company, what they have done in entering this market and participating in it, in the U.S. market.

MR. TOPKIS: Excuse me, your Honor. First, I must correct what I gather is a misunderstanding. No annual report of Liquid Air has been put into evidence here. It is a privately held company so far as I am aware. But, second, I must point out that I take sharp issue with Mr. Thurman on what this document is and what the penalties of law attendant upon it are because this is a so-called red herring prospectus. It is called a red herring prospectus because it bears on its side in red, a warning, that this document is not in final form and is subject to amendment or correction at any time.

It is not reliable and it is not to be relied on and it says it is not effective. So without penalty of law, anybody who files one of these may correct it.

I realize that I am testifying in effect, but I think anybody who has had any expeirence with the Securities and Exchange Commission knows this, that you can correct these things all the time. They are subject to proof-reading, they are subject to any type of correction wholly without penalty. Often they are subject to expansion upon request and questioning by the SEC.

JUDGE BARNES: Mr. Thurman, let me suggest that you check with the SEC and see if they do file a corrected final statement and perhaps you might want to recall some witness or someone in rebuttal or we can take it up at a later date. I don't think you have to call a man from California, is that therehe came from?

MR. THURMAN: Yes. It surprises me that they can put in documents without a witness being present, that was one of my arguments. This man was here.

MR. TOPKIS: If there is a final prospectus, we don't need a witness to identify it. I may have other problems with it, but we don't need a witness to identify it.

MR. THURMAN: I would take issue if they filed some false information in here that they would not have an action against somebody, I wuld be extremely surprised, even with a

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red herring.

JUDGE BARNES: There is a difference between false and inaccurate.

MR. THURMAN: When something that appears in the newspaper is more reliable than something filed with the SEC, then my mind doesn't work on the same wavelengths as other minds do, I suppose.

JUDGE BARNES: Send Mr. Hoagland over to the SEC Monday morning and see if they have a complete one filed. We can take it up Tuesday in Washington.

MR. TOPKIS: Your Honor, if we may go off the record?

JUDGE BARNES: Off the record.

(Discussion off the record.)

JUDGE BARNES: We will adjourn until ten o'clock Tuesday in Washington, D.C.

(Whereupon, at 3:40 p.m., the hearing adjourned.)

C O N T E N T S

WITNESSES

FOR THE RESPONDENT:	DIRECT	CROSS	REDIRECT	RECROSS
George S. Dillon	2584	2603	2611	
Peter Laister	---	2612	2686	

E X H I B I T S

FOR THE RESPONDENT:	IDENTIFIED	RECEIVED
BOC-254 (In Camera)	2691	2694
FOR THE COMMISSION:		
335A thru 354	-----	2697 (rec'd on basis of official notice, pp. 2700)

BEFORE THE

FEDERAL TRADE COMMISSION

- x

IN THE MATTER :

of :

BRITISH OXYGEN COMPANY, LTD. :
BOC FINANCIAL CORPORATION :
BOC HOLDINGS, LTD. :
BRITISH OXYGEN INVESTMENTS, LTD. :
AIRCO, INC. :

Docket No. 8955

- x

Room 7314, 1101 Building,
11th St. and Pennsylvania Ave., NW,
Washington, D. C.,
Tuesday, June 18, 1974.

Met, pursuant to recess, at 10 a.m.

BEFORE:

ERNEST G. BARNES, Presiding Administrative Law Judge.

APPEARANCES:

K. KEITH THURMAN, GORDON YOUNGWOOD, DON PURCELL, DARYL NICKEL, RHETT KRULLA and JOHN HOAGLAND, on behalf of the Federal Trade Commission.

JAY H. TOPKIS, LEWIS A. KAPLAN and MOSES SILVERMAN, Paul, Weiss, Rifkind, Wharton and Garrison, 345 Park Avenue, New York, New York 10022, on behalf of Respondent, British Oxygen Company, Ltd.

R. BRUCE MacWHORTER, R. WOLLAN, J. R. HAWKINS, II, Shearman and Sterling, 53 Wall Street, New York, New York 10005, on behalf of Respondent, AIRCO, Inc.; and

PROCEEDINGS

JUDGE BARNES: Are we ready to proceed?

MR. WOLLEN: Yes, Your Honor.

JUDGE BARNES: When we adjourned in New York on Friday, we had planned to start the hearing this morning with the cross-examination of Mr. Laister. I understand he is late showing up in the hearing room, so we will take Mr. Laister later on for his cross-examination.

We will start with Mr. Dillon.

GEORGE S. DILLON was thereupon called as a witness for the respondent and, having been first duly sworn, testified as follows:

XXXX

DIRECT EXAMINATION

By Mr. Wollen:

Q Could you give your full name and address.

A George S. Dillon, 139 Chestnut Ridge Road, Saddle River, New Jersey.

Q You are employed by respondent AIRCO, Inc.?

A I am.

Q What position?

A Chairman of the Board, Chief Executive Officer.

Q Mr. Dillon, could you briefly give us a description of your educational and business background starting from college?

A I graduated from Syracuse University in 1939, went on to Cornell Law School for a couple of years. In 1941 I went into the Navy. I was discharged in 1945. I returned to law school, graduated in '46, went to work for the firm of Shearman & Sterling. I was employed by them as an associate. I subsequently became a partner in the firm.

In 1952 I resigned from the firm and joined AIRCO as a vice president. In 1963 I became executive vice president, in 1964 president, in 1968 chief executive officer, in 1971 chairman.

Q Mr. Dillon, when you were at Shearman & Sterling did you have a specialty?

A Taxes, securities law.

Q Mr. Dillon, we have heard a lot about industrial gas and the medical products business of AIRCO. Could you tell us a little bit about the businesses which the company has?

A Our other major businesses other than industrial gasses and medical products are ferro alloys, graphite, welding equipment. We have several smaller businesses, electronics, electron beam high-vacuum equipment operation, and several smaller metals businesses. In the aggregate, our industrial gasses and medical products make up about 35 percent of our sales, about 32 percent of the company's total investment is related to those two businesses.

Q Perhaps you could tell us briefly the history of AIRCO. When was it formed?

A It was formed in 1916. A group of investors led by members of the Rockefeller family hired a man named Herman Van Fleet to devise a way for them to get into the business of commercially selling oxygen. Mr. Van Fleet investigated various processes and finally recommended that they take a license under a French process, which I believe was called the Claude Process. It was for the separation of the components of air.

As I recall, the first plant was built by this group in 1916 or 1917 in Jersey City. Subsequently the area of interest of the company expanded. The oxygen, the use of oxygen in welding led to AIRCO's entry into the acetylene and welding equipment businesses, subsequently into the medical products business. Thereafter AIRCO acquired a ferro alloy business in 19 -- graphite business in 1961 and the ferroalloys business in 1962.

Those are the major business areas today.

Q Are these different businesses you have described conducted through separate divisions of AIRCO?

A Yes, we have 11 operating divisions altogether. Each division has its own separate management. In the case of the gas business, it is actually done through different divisions, one of which we call our Industrial Gas Division. There are gasses sold through our Welding Products Division and gasses sold through our Medical Products Division.

Q Prior to June of 1973 did you have any familiarity with the respondent, British Oxygen Company?

A AIRCO has had commercial contacts with British Oxygen for many years. Since my employment by the company we have had a number of these and through them I became personally acquainted with Mr. Smith and Mr. Laister and Mr. Williams and some of the other senior operating officers of the British Oxygen Company and several of their directors.

Q In June of 1973 was AIRCO's stock listed?

A Yes, it was listed on the New York Stock Exchange. We had approximately 43,000 stockholders at that time.

Q Do you know approximately how many shares were outstanding?

A 11.4 million.

Q What was the price of AIRCO stock at that time?

A In June of last year it was about $11 per share.

Q In the range of prices for AIRCO stock in the last few years was that high or low?

A That was low, really low.

Q It was about the lowest it had been for several years?

A For several years.

Q Do you recall what the book value of AIRCO stock was at that time?

A Yes, it was $23 a share.

Q Do you recall what the price-earnings ratio in stock was?

A On the basis of the prior published four quarters it was 8, on the basis of our forecast for the year '73 it was about -- a little better than 6.5 to 1.

Q At that time did AIRCO have any large shareholders?

A No, we had no singularly large shareholders. The largest holding, as I recall, was by Southern Natural Resources and it amounted to about 345,000 shares out of the 11.3 million outstanding.

MR. THURMAN: How many was that?

THE WITNESS: 345,000 shares approximately.

By Mr. Wollen:

Q Now in or about June 1973 or for a few months before that had any rumors come to your attention of the possible offer for shares of AIRCO?

A Yes. Rumors, no great specificity about them, but it seemed to be a time for rumors. The relatively low state of the stock market, New York Stock Market, seemed to create sort of a fertile ground for people to speculate about tender offers, acquisitions, and it was during that period it was seldom that a week went by that I didn't have a call or have a conversation with someone who had some indication that a tender offer was going to be made for our company or for anyone that was close to us.

Q In light of that fact did you or AIRCO's management take any steps?

A Yes. We had had a plan in existence for some years that related to the action that we would take in the event that an unfriendly tender offer were made. It happened that earlier in 1973 we had employed a new man to be our Vice President-Law. He had had some experience in this area. He and I had had a discussion in which we decided to dust the old plan off and re-examine it and decide whether it needed updating and, in fact, we did update it in the sense that we hired a stockholder relations firm which had a substantial amount of experience in connection with tender offers to give us advice in this connection.

Q What was the purpose behind having such a plan?

A The purpose of the plan really was to be able to make some choices in the event that a tender offer was forthcoming. Obviously as the management, as directors, we had an obligation to the stockholders to take a position, to exercise judgment in connection with any offer that was forthcoming.

The purpose of the plan really was to put ourselves in a position so that we could exercise that judgment with the least amount of pressure.

Q Now, Mr. Dillon, did there come a time when you learned that a tender offer for AIRCO shares might be made by the Curtiss-Wright Corporation?

A Yes. It was a date that I do recall rather clearly. It was November 2, 1973.

Q How did you learn that?

A I had been out of the office. It was a Friday morning.

I had been out of the office for several hours. When I returned, my secretary informed me that I had had a call from a man named George Moore, who at one time was the Chairman of the Board of the First National City BAnk. He had inquired for me. My secretary told him I was out. He said please tell him that a man named T. Roland Berner and another man named Paul Hallingby will be in to see him. Mr. Berner is Chairman of the Curtiss-Wright Corporation, Mr. Hallingby is President of the investment banking firm of White, Weld.

I knew Mr. Moore was associated with White, Weld in some capacity. When my secretary said she doubted whether I would be able to see them, Mr. Moore said, "You tell him that they are coming over to see him on a matter of great importance and I am sure he will make time."

When my secretary gave me this message I had, as it turned out, a rather specific notion as to what Mr. Berner's mission would be. He showed up at three o'clock or 3:30. I met with him and Mr. Hallingby. I had Mr. Giordano, our President, Mr. Reich, one of our Vice Presidents, with me. Mr. Berner announced almost immediately that the Curtiss-Wright Corporation was prepared to make a tender offer for AIRCO shares. He was not specific about the price, although he indicated it would be somewhere in the area of 25 percent of the market, and that it would be for approximately 2 million shares.

That is when I first learned of the Curtiss-Wright offer.

Q And that you learned during a meeting with Mr. Berner and Mr. ~~Eaby~~ Hallingby on or about November 2?

A I did.

Q What did you do with respect to those facts after that meeting?

A The meeting closed by our telling Mr. Berner that we would need to consult with our various advisers and ultimately convene a meeting of our Board of Directors in order to consider his proposal. I immediately was in touch with our banking firm, Dillon, Reed & Co., with our lawyers, Shearman & Sterling, and with our stockholder relations adviser, a gentleman named Art Long.

Q Did you give consideration to this proposal?

A Yes, we did. We were not at all familiar with Curtiss-Wright at the time of Mr. Berner's visit. We immediately went to work to inform ourselves as best we could about that company. We employed our public accounts to do a study of it. We asked Dillon, Reed to do a study of it and several of our financial people embarked on a study of some specific aspects of Curtiss-Wright.

We gathered up as much literature as we could. We asked Mr. Berner to help us in this regard by providing us with as much information as he could in order that we could inform ourselves. This continued over the weekend and right through until Wednesday, at which time we convened a meeting of the

Board to discuss this matter in some detail.

Q Did you receive reports from your advisers as to Curtiss-Wright?

A Yes, we did. We received reports from Haskins & Sells, our public accountants, and from Dillon, Reed. We informed ourselves through our separate study and through the efforts of our own financial people and we concluded that on the basis of the information we could turn up within that time frame that the Curtiss-Wright offer should be opposed.

We rather hesitated to do this without the opportunity for further study and without providing Mr. Berner with the opportunity to appear before our Board and discuss his proposal and his company with our Board. So that at the meeting on that Wednesday following November 2, that was the conclusion we reached.

We decided to adjourn the meeting, to pursue our studies further, to make sure that our initial conclusion was correct or that it would be modified and to reconvene the meeting on the following Monday and provide Mr. Berner with an opportunity to appear and explain his proposal and his company directly to the members of our Board of Directors.

Q Did you invite Mr. Berner to do that?

A Yes, he accepted.

Q Did he attend the meeting?

A He did attend the meeting on the following Monday.

Q Did anybody else attend that meeting?

A Yes. Actually there were representatives of two other companies. Mr. John Shaw, who was Chairman of Southern Natural Resources, is a member of our Board. At the close of the Wednesday meeting Mr. Shaw told me that he had been giving some serious consideration to making an offer for our shares in response really to the Curtiss-Wright offer. He said they had not completed their analysis of our company and they had not determined with their bankers the nature of the offer that would be appropriate. Consequently ---

MR. THURMAN: I would like to interrupt here with an objection.

MR. WOLLEN: Can't you wait until the witness finishes the answer?

MR. THURMAN: He is going into hearsay matters which should not go into the record. Mr. Shaw is the man to testify to this matter.

MR. WOLLEN: Certainly he can testify as to what Mr. Shaw told him.

JUDGE BARNES: Generally he can state what he was told. He may proceed.

THE WITNESS: Mr. Shaw said that they would atep up their efforts and attempt to reach a conclusion by the following Monday and that he would like the opportunity to discuss the matter with the Board at that time. I assured him that since an offer had already been made, that in my view it would be perfectly appropriate for him to do that.

In the meantime we had been having some discussions with the representatives of the British Oxygen Company. Following the notification by Mr. Berner, we were in contact with British Oxygen by telephone first and I think on Tuesday of that week I asked Giordano to go to London to come in personal contact with Mr. Smith and the other members of the BOC management, to determine whether they had an interest in making an offer at this time.

We were generally cognizant of the fact that they were interested because of the prior discussions that had ensued, but we really didn't know what their current posture was in this regard, whether they were prepared to go to the point of actually making an offer. I asked Mr. Giordano to determine that.

By Mr. Wollen:

Q Mr. Dillon, by the time of the adjourned Board meeting had you received any more definitive reports from your advisers about Curtiss-Wright Corporation?

A Yes, at the time of the adjourned Board meeting we had concluded that the offer should be opposed, really on two grounds: First, we felt that the amount being offered for the shares was too low. We felt that the price should be higher. We also felt that Curtiss-Wright would make a poor partner for

AIRCO in the future.

We had examined their record. We had concluded from it that their operating businesses were showing fairly steady declines in earnings. They were making some money from the sales of assets such as real estate and from the sales of certain other properties of their company, but from an operating standpoint they were showing earnings declines.

They had acquired several companies in recent years. None of the acquisitions appeared to have resulted in successful ventures. We noted that they had stopped investing in their business. They had been carrying on a level of capital expenditures for their business of about $25 or $26 million a year. That had declined in the years '71 and '72 to levels of about $2 to $3 million, which we felt was barely a maintenance level in terms of the business.

We made inquiries with respect to their position as a supplier to the aerospace business because their reputation as a company back in the early '40s was really made in that capacity. We were informed that whereas they had been the No. 1 supplier in the '40s, they were now virtually not a supplier to our airlines.

For all of those reasons we concluded that an association with them would not help us in the future. On the contrary, it probably would be harmful to our reputation to have that close an association.

Q Were those facts reported to the Board of Directors at the adjourned meeting?

A Yes, and in addition, they had the opportunity to hear Mr. Berner and Mr. Hallingby, who appeared personally, make the case for their company as best they could.

Q Did you have any of AIRCO's advisers at that meeting also?

A Yes, we did have Dillon, Reed really to advise with respect to the value of the shares so that the directors would have the benefit of an expert opinion on whether the Curtiss-Wright offer was at a fair price, was at a price that the stockholders should expect to realize under conditions as they existed then.

The gist of the advise that Dillon, Reed gave the Board was that the price was not high enough.

Q Was there any conclusion at that Board meeting?

A Yes. After hearing the representatives of Curtiss-Wright and hearing Mr. Shaw and hearing Mr. Smith of BOC, who was also invited to appear because he had by then concluded that while BOC was not prepared on that day to make an offer, that they nonetheless were interested. With additional study they felt that they might well conclude that an offer would be forthcoming.

At the conclusion of the meeting the Board decided that the Curtiss-Wright offer should be rejected and if they persisted in it, it should be opposed. The Board also concluded that if Southern Natural Resources or British Oxygen should come forth with a definitive offer, the Board would reconvene and reconsider either or both of those offers.

Q Did you report that conclusion to Mr. Berner?

A I did. After the Board meeting I invited Mr. Berner to come and visit me. He brought Mr. Hallingby. I again had Mr. Giordano and Mr. Reich in my company. We told him that we preferred not to accept his offer, that we would, in fact, oppose it, that we had been having some discussions going back several months prior to that with British Oxygen and that we were proposing that we continue those discussions which might or might not lead to an offer or another form of amalgamation between AIRCO and BOC.

We also notified him of the Southern Natural Resources situation, saying that that was still open as well.

Q What did Mr. Berner say to that?

A Mr. Berner was very specific. He said that he would not make the offer under these circumstances. He asked me that I notify him in the event that our conversations with British Oxygen did not lead to an offer on their part.

Q Did you then continue your discussions with British Oxygen?

A We did, yes. We had formed what were described as working parties. We were represented by Doug Moore, Mr. Moore, our Vice President-Law, and by Stanley Rubenfeld, a member of the firm of Shearman & Sterling. The British had a group headed by Paul Bosonay and a man who was their group strategy officer.

The objective of this working party was really to examine all the possible forms of combinations or amalgamation of these companies and to isolate the various legal and tax problems that we knew existed, but we had not yet defined or quantified. Their mission was to do that.

In addition, Mr. Smith and I agreed that following the first of the year, 1974, we would bring together the top managers of AIRCO and BOC for a series of consultations which would examine in some detail the major businesses of each company and discuss the strategies that were being employed and the reasons for these strategies, examine the data basis that underlay these strategies.

That was the posture in the weeks following the period when Mr. Berner told me that he would not make an offer.

Q As a matter of fact, Curtiss-Wright did make an offer?

A Yes, they did. A few weeks later they made an offer.

Q How did you learn about that offer?

A I was at Kennedy Airport waiting for a plane to go to London. About nine o'clock in the morning I received a call from our lawyer, saying that the broad tape had carried the announcement to the effect that Curtiss-Wright was making a tender offer at $18 a share for 2.4 million shares.

Q Did you go to London?

A No, I went back to the office. An old expression for this is "go back to the mattresses."

Q What did you do back at the office?

A Well, we organized a campaign to oppose the Curtiss-Wright offer.

Q Pursuant to the authority you had previously received?

A Yes. We implemented the plans that we had put together. We published a letter to our stockholders in which we told them that we opposed the offer and stated the reasons that we opposed it. We told them that we had other negotiations in prospect and that we felt at the very least they should delay accepting the Curtiss-Wright offer until they had an opportunity to learn about these.

As I recall, we instituted a lawsuit against Curtiss-Wright in an attempt to enjoin the offer.

Q Did you inform British Oxygen of the Curtiss-Wright offer?

A Yes, we informed them rather promptly. It happened that Mr. Giordano was in London at this point. He and I had been scheduled for some meetings in London that week. He had gone over on Sunday afternoon and so he was there when this notification came. I notified British Oxygen by calling Mr. Giordano and letting him know what had transpired. He passed that information along to British Oxygen promptly.

Q Did discussions with British Oxygen continue through that week?

A Yes. At this point the discussions assumed a somewhat different posture. We had the Curtiss-Wright offer on the

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street. It was perfectly clear that this offer was going to be made and completed.

The best advice that I could get from our experts was that if we opposed this offer as effectively as it could be opposed that the chances were that they would get somewhere between 1-1/2 million and 2 million shares as a result of the offer.

We took all the steps that we could to be sure that the opposition was effective.

On the other hand, we recognized that that was the beginning of a longer period of attrition. If Curtiss-Wright got that many shares, as soon as the grace period following the tender offer expired they would be in the market to get more shares and eventually it would come to a proxy fight type contest.

We felt that British Oxygen offered us a far better alternative in terms of a prospective partner. We also felt that under the circumstances that British Oxygen would undoubtedly offer a higher price to our stockholders.

So that the conversations that Mr. Giordano had with Mr. Smith and others in London really related to British Oxygen's posture at that time in connection with such an offer and the British Oxygen board was convened I believe three times that week for purposes of these discussions and ultimately reached a conclusion.

Q In other words, it was your view that the Curtiss-Wright offer if successful would have precluded further discussions with British Oxygen?

A Yes. A stockholder of that magnitude coming as a third party to discussions that are as sonstiive as the ones between British Oxygen and ourselves simply would have made it impossible in my view for that BOC transaction to proceed. We would have been cut off from the option of eventually combining or amalgamating with BOC in any way.

Q What resulted from the discussions that you had with British Oxygen during that week?

A The results on the following Monday when British Oxygen made a tender offer for a minimum of 3 million Airco shares with the right to take a million more at a price of $20 a share.

I should add that in the interim I had been in touch with Mr. Shaw as well as British Oxygen and that Southern Natural Resources had concluded for various reasons that they simply could not make an offer at that time.

Q Mr. Dillon, I will hand what has already been admitted into evidence as Commission Exhibit 108-A, B and C. I ask you if you recognize that document?

A Yes, I do.

Q In fact, is that your signature on page C?

A Yes, it is

3 Q Could you describe the events leading up to the execution of this document?

A We had in existence at that time an agreement dated July 25 between Airco and BOC which required our consent if BOC were to make an offer for our shares. So that it was appropriate at this time for us to enter into an agreement which would give British Oxygen the right to make an offer for a minimum of 3 million, with a maximum of 4. They had to have such a right in order to be able to proceed.

From our standpoint, we were anxious to have the agreement of July 25 reinforced and reaffirmed by BOC so that they would not be able to acquire any shares in the offer and above the 4 million level without out consent in the future.

Secondly, we really wanted to get a definition of what sort of representation would be had on each others boards. We felt it was important for us to understand exactly what they proposed if they became substantial stockholders in terms of representation on the Airco board and we were very strongly interested in having representation on the BOC board so that we would acquire a direct voice in the management of what was to be a company that would be a very substantial shareholder of ours.

In addition to that, we believed that if BOC did acquire these shares, it would be very important for us to have the right of first refusal to reacquire such shares in the event that BOC ever decided to sell them.

The reason that this was important really was pretty basic. If they came to a point where they reached a decision to sell our shares we wanted to have a voice in determining the ultimate purchases of these shares for the same reason that we wanted to have a voice at the outset in selecting any company that would become a substantial shareholder of our company.

Q After this agreement was signed British Oxygen Company did in fact make a tender offer for Airco shares?

A Yes. In fact, the offer was made as I recall the same day that this agreement was entered into.

Q And a copy attached to this agreement?

A Yes.

Q Do you recall the price of the offer?

A It was made at $20 and made for a minimum of 3 million, a maximum of 4.

Q Did Airco's management take any position with respect to the British Oxygen offer?

A We consented to the offer as we were required to do under the July 25 agreement in order to make it possible. We mailed the offer to or we had our transfer agent mail the offer to our shareholders.

If you will recall the dates, the Curtiss-Wright offer had come out on the 3rd of December. It was on the street for a full week before the BOC offer was made. We felt that it was very important that we get the BOC offer to our stockholders promptly so that they would have the opportunity to get $20 rather than $18 for those shares.

So, we expedited this by working through our transfer agent. British Oxygen did pay the expense of the mailing but they obviously could not have had access to our stockholders' list without our consent, nor could they have had the services of the transfer agent without out consent.

Q Did you recommend that Airco accept the BOC offer?

A No, we did not. We did not recommend that they either accept it or reject it. We left it to their judgment.

Q Do you know as of this day, Mr. Dillon, how many shareholders there are of Airco?

A About the same number as before the offer. In fact, there there may be a few more. As I recall there are about 44,000 shareholders today.

Q Mr. Dillon, do Airco and British Oxygen Company have any definitive plans for the future now?

A We don't have any definitive plans for the future. Certainly this proceeding has made it a little more difficult for us to plan than it otherwise would have been. But quite apart from that there are a great many business and legal problems that need to be dealt with before we will be able to determine what the ultimate shape of this should be.

Q I take it that that was the position after the British Oxygen offer was completed and before this proceeding was started?

A Yes, it was. We had not really gotten to work on the resolution of those problems.

MR. WOLLIN: I have no further questions, Your Honor.

MR. THURMAN: May we have five minutes, Your Honor?

JUDGE BARNES: Mr. Topkis, do you have any questions?

MR. TOPKIS: No, Your Honor.

MR. THURMAN: May we have a five-minute break?

JUDGE BARNES: Let us take a ten-minute recess.

(Recess.)

JUDGE BARNES: Is the July agreement between BOC and Airco in evidence?

MR. WOLLIN: Yes, it is. It is No. 99. It came from BOC's file. It is therefore attached to a BOC memorandum and a BOC buck slip, I guess you would call it.

CROSS-EXAMINATION

By Mr. Purcell.

Q Mr. Dillon, have you attended any proceedings in this matter?

A Yes.

Q Could you indicate which days you attended proceedings, whose testimony you heard?

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A I heard Mr. Smith's testimony and Mr. Giordano's testimony.

Q Did you hear Mr. Moeller's testimony?

A Dr. Moeller?

Q Dr. Moeller.

A No, I did not.

Q Did you hear anyone else's testimony in addition to Mr. Smith and Mr. Giordano?

A No.

Q Have you read any transcripts in this matter?

A Yes.

Q Have you read the transcript of Mr. Smith and Mr. Giordano?

A Yes, I have.

Q Have you read any other transcripts?

A Yes.

Q Could you indicate who?

A I have read a great many of them. I don't know that I could tick off the witnesses but I remember, for example, reading Dr. Moeller's testimony. I am not terrible specific about any of the others in my recollection.

Q You have read most of those transcripts, that is correct?

A Yes. I did read most of those transcripts, that is correct.

Q Mr. Dillon, did you have any shares of Airco at the time

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of the BOC offer?

A Yes.

Q Did you tender any of those shares?

A No, I did not.

Q Mr. Dillon, you testified here this morning that the Airco board did not make any recommendation to the shareholders of Airco as to opposition of the Curtiss-Wright tender offer; is that correct?

MR. WOLLEN: No, that is not correct, Your Honor.

MR. THURMAN: Let him answer.

MR. WOLLEN: He is summarizing the testimony. I object to the form of the question.

JUDGE BARNES: Can you rephrase the question?

By Mr. Purcell:

Q Did Airco board make any recommendation to Airco shareholders as to whether they should accept or oppose the Curtiss-Wright tender offer?

A They made a recommendation to the Airco shareholders that the shareholders not accept the Curtiss-Wright tender offer.

Q Did you make any recommendations regarding the BOC tender offer, the Airco board, did they make any recommendations regarding the BOC tender offer?

A No.

MR. PURCELL: Your Honor, I would like to draw

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your attention to a document in evidence, CX-125Z-9. I would like to draw your attention to the third paragraph which reads ---

JUDGE BARNES: Do you want to draw the witness' attention to it or mine?

MR. PURCELL: Your attention is sufficient.

MR. WOLLIN: What is the purpose?

MR. PURCELL: Your Honor, this is a letter to Airco stockholders from Mr. Giordano, Mr. Dillon, which urges the stockholders to reject.

JUDGE BARNES: I will look at the letter if you will bring it up here.

Thank you.

By Mr. Purcell:

Q Mr. Dillon, you testified here this morning that Curtiss-Wright was making an unfriendly tender offer. Do you recall that testimony?

A I don't know that I characterized it that way.

Q You testified here this morning that your company had a plan, a tentative plan you would refer to in the event of an unfriendly tender offer; is that correct?

A Yes.

Q Can you explain what you mean by unfriendly tender offer?

A An offer that would be opposed by the management of Airco.

Q Was the Curtiss-Wright offer an unfriendly tender offer?

10 A The Airco management opposed it.

Q Did that plan express any criteria as to how you would determine what an unfriendly tender offer is?

A No.

Q What alternatives did that plan indicate were available to you or that you would choose?

A The plan did not indicate any alternatives at all.

Q What was the plan?

A The plan really was related to the kind of action that would be taken in the event that the management determined that a given tender offer was unfriendly.

Q What types of action?

A Well, actions related to informing our stockholders with respect to the offer and our views of it, informing our lenders, financial institutions with respect to the same thing, our employees, examining the situation of the offer or to discover whether he was vulnerable to counteraction. These were procedural steps that related to the opposition to the offer.

Q What criteria would be used by Airco to determine what is an unfriendly tender offer?

A Well, there are two principal ones. The first relates to the price at which the tender is being made. The second one really relates to the compatibility of the offer with Airco in terms of its impact on the future operation of the business.

I think when you consider a matter of this kind you can conclude that there will be shareholders who will sell and to them the board has the duty of expressing a view as to the price.

There will be those who will not sell their shares to them and the board has the duty of selecting a partner who in the view of the board will be helpful rather than harmful in the future conduct of the business of the company.

Q Are there any other criteria to be used by Airco to determine what an unfriendly offer is?

A None that comes to mind immediately.

Q Would change in management be one of those criteria?

A You will have to clarify that for me.

Q Would replacement of some of the executive officers be a criteria used by Airco whether or not to oppose an unfriendly tender offer?

A Are you suggesting that the offer would stipulate as a condition of his offer that the Airco management be replaced, how would I regard that? I would regard that as personally unfriendly.

Q Do you know if Curtiss-Wright intended to change any of the executive management in Airco?

A Do I know whether they would change the executive management? No, I don't know.

Q Was it ever suggested to you that they might?

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A No. They suggested on the contrary that they were very much interested in having our management remain with the company. Those assurances were provided me by Mr. Berner on at least three separate occasions.

Q You testified this morning that Airco opposed the Curtiss-Wright tender offer for two reasons. One is that Curtiss-Wright would be a poor partner.

A Yes.

Q The other reason is that there offer was too low; is that correct?

A Yes.

Q Are there any other reasons that Airco opposed the Curtiss-Wright tender offer?

A No. None that I recall.

JUDGE BARNES: When you first met with Mr. Berner there was no price mentioned, was there?

THE WITNESS: The price that was mentioned, the price was not mentioned specifically, Judge. The statement was made that the offer would be in the area of 25 percent over the market value. I think I testified to that earlier.

By Mr. Purcell:

Q Would Airco have reconsidered Curtiss-Wright's tender offer if it had been $20?

A Indeed.

Q Mr. Dillon, when did money change hands for the BOC tender offer?

A In a specific sense I don't know that. You understand, of course, that the BOC tender offer was made to Airco shareholders.

Q That is correct.

A As I recall the offer was made on the 3rd, expired on the 17th -- pardon me, was made on the 10th, expired on the 23rd of December. It was two weeks in any case.

At that point, with the expiration, BOC was committed to make the payment. The payments were made by banks as agents for BOC and precisely when the amounts were received by the shareholders, I have no way of knowing.

Q I would like to bring your attention to the July 26 meeting, 27 meeting. Did you suggest that that meeting take place?

MR. WOLLEN: I object to the question, Your Honor. That was not covered on Mr. Dillon's direct examination. I believe complaint counsel is going outside the scope of the examination.

JUDGE BARNES: I won't stop him from asking questions along those lines. I didn't her any testimony about the July 27 meeting.

MR. PURCELL: Your Honor, we went into the long discourse about the relationship and the background and what happened up to the tender offer by BOC. This is part of the

14 background. I would just like to go into it.

JUDGE BARNES: All right.

By Mr. Purcell:

Q Do you recall the July ~~7~~ 25 meeting?

A Yes.

Q Did you suggest that that meeting take place?

MR. TOPKIS: Could I inquire what meeting we are talking about? There was a document dated July 25. If that document was signed at the meeting and that is the meeting he is talking about that is all right.

JUDGE BARNES: I was wondering where you got the date of the meeting. I don't recall that. Specify what the meeting was and who it was with and then maybe I will let you ask the questions.

MR. PURCELL: Your Honor, I will withdraw that line of questions.

I have no further questions.

MR. TOPKIS: We have no questions.

REDIRECT EXAMINATION

XXXXXX By Mr. Wollen:

Q Mr. Dillon, do you recall at the time of your first meeting with Mr. Berner when he said that he was thinking of an offer in the area of 25 percent over market what that figure would have been at that time?

A As I recall, it was somewhere between $16 and $17.

15 Q Per share?

A Per share.

MR. WOLLEN: No more questions, Your Honor.

JUDGE BARNES: Thank you, Mr. Dillon.

(Witness excused.)

MR. TOPKIS: Now Your Honor, thanks to reasonably speedy service on the New Jersey highways and a distressed motorist, we have Mr. Laister back with us.

JUDGE BARNES: You are still under oath.

This will be cross-examination of Mr. Laister.

Give the reporter your full name.

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PETER LAISTER, was thereupon recalled as a witness for the Respondent and, having been previously duly sworn, testified further as follows:

XXXXXXXX THE WITNESS: Peter Laister.

CROSS-EXAMINATION

By Mr. Youngwood.

Q Mr. Laister, we have seen you many days on this matter. How many hearings have you attended here?

A I think it is easier to tell you which ones I missed.

MR. TOPKIS: Your Honor, for the sake of the record, I object to that question on the grounds of relevance. The traditional objection to relevance is that if the answer is yes or if the answer is no and it makes no difference, then

16 the question is irrelevant.

I don't care how many he attended or how many he didn't attend. This question is irrelevant.

JUDGE BARNES: Well, complaint counsel made a motion earlier in the trial to exclude witnesses but I permitted Mr. Laister to stay. I assume they want to have the record show how many days he was here.

MR. TOPKIS: I appreciate that. So what? Suppose he was here nine days or 11. What difference does it make? They have asked that same question of every witness. We have all sat here and suffered patiently.

In the interest of inevitable proceeding after inevitable proceeding down through recorded time, isn't it about time to bring this kind of question of an end?

JUDGE BARNES: I assume they want to argue that Mr. Laister's presence in the courtroom will influence his testimony in some way. Perhaps they will point it out in findings.

MR. YOUNGWOOD: My next question would be to ask Mr. Laister how many transcripts he has read.

JUDGE BARNES: He did not answer your first question yet.

By Mr. ~~Purcell~~ Youngwood:

Q You were about to indicate that it might be easier for you to state those hearings that you did not attend.

17 A That is correct. I did not attend the last two days of the medical hearing when I think there were four witnesses and I did not attend the first day when we resumed in New York, which was I think Dr. ~~Gritzel~~ Kridl.

Q How many transcripts did you have the opportunity to read?

A I have read only part of Dr. ~~Gritzel's~~ Kridl's testimony. I read that on the plane, the first 20 or 30 pages. I have not read the other transcripts. I have had them available but in fact have not read them.

Q What documents did you examine in preparation for your testimony?

A I looked at my own evidence that I gave last December. I looked at some figures which relate to the sales throughput sales of Harris Lake and Fraser Sweatman.

Q The sales ---

A The sales figures.

Q You did not get an opportunity to read a transcript in preparation for your testimony, did you?

A No, certainly not.

Q You have indicated that you are the prime liaison in American affairs for British Oxygen. What are your responsibilities in that job?

A I explained those under direct examination. They are really in the main twofold.

The first at this stage relates to the following through and acting as liaison with our own people back home, following through this case.

The second part of my responsibility relates to my liaison with Airco, acting really as a shareholder's representative.

Q When did you adopt those responsibilities as really the prime liaison in American affairs?

A Really during March and that is from April First.

Q March 1974?

A Of this year, yes.

Q Have you changed your place of residence in connection with that particular job?

A Yes, I have. I have taken up residence in fact at Fort Lee, New Jersey.

Q Will you tell us, please, the distance, if you know it, between Fort Lee, New Jersey and Montvale, New Jersey?

MR. TOPKIS: I object. Again I don't care if it is 20 miles, two blocks or 800 miles. That question is irrelevant.

JUDGE BARNES: I believe that seems irrelevant, Mr. Youngwood. Do you want to know if he rides a bicycle over or motorcycle or what?

MR. YOUNGWOOD: Perhaps I can approach this in another way.

19 JUDGE BARNES: All right.

By Mr. ~~[illegible]~~ Youngwood:

Q Can you tell me how often you have had the occasion to meet with Airco representatives since March or April 1974?

A I can give you a rough approximation. I spend one or two days monthly in the Montvale offices. I have attended the board meetings which have been called since that time, some of which have taken place in Montvale, others in New York and one in South Carolina.

Q What is your role at those meetings?

A I act as a director of Airco.

Q Do you have any role which places you in a position different than any of the other directors or are you just one of the 16 directors?

A I would say I am one of the 16 directors.

Q You have devoted a substantial portion of your time to the attendance at these hearings, have you not?

A Yes, I have.

Q Would you expect that at the conclusion thereof that you might be able to devote somewhat more time towards the direct management of Airco in any way at all?

A I am hoping that I don't have to spend my time in the courtrooms when these proceedings are finished, that certainly is true. Then I would hope to spend more time with Airco, certainly not however directing their management. That is not in fact my responsibility. Nor do I have the authority to do it.

Q Perhaps you can explain to us the manner in which you would expect that you would spend your time?

A I would like to familiarize myself with the operations of Airco as a director of Airco and I think that will take some considerable time.

Secondly, I would act as a liaison between the largest shareholder, BOC, and Airco and that will take a fair amount of time.

Thirdly, I also have responsibilities in Canada as I am to be appointed to the board of Canox, our Canadian company.

Fourthly, in fact I would liaison with the American financial and other such institutions, the banks and financial institutions, so that we are familiar with the financial and general business structure in America.

Q For what purpose do you wish to become familiar with the financial and business structure?

A We have a large shareholding here. I think we want to take very interest in the financial and business structure of America.

Q Then that would relate to your present shareholders?

A Yes, it would.

Q You stated that Cris Hesketh-Jones is in charge of South America. South America is not included in your responsibilities?

A Not at this stage, no, although I would expect in fact that I shall visit South America during the course of the next year or two as part of the developing change.

Q I believe you stated also that South America in the future is seen as a place of possible development. Have I characterized your testimony correctly?

A Certainly I think BOC has a thought, Brazil in particular, as an expansionist market.

Q How long have they had those thoughts?

A BOC? I suppose the last two to three years. Perhaps three to four. I find it difficult to quantify as to how long we have had the thoughts.

Q What type of expansion are they contemplating in Brazil?

MR. TOPKIS: Is there any possible pertinence to the question of what we propose to do in Brazil? We have gone into the Fiji area I realize and perhaps that establishes precedent but ---

JUDGE BARNES: I will let him proceed further until we see where he is going.

THE WITNESS: We are developing gas business there. We have interest in a refrigeration company which in fact acts as our agent for our high vacuum equipment, and we are also developing a medical interest there.

By Mr. Youngwood:

22 Q All of this development occurred in the last three or four years?

A Yes, about four years. Perhaps a little less, three years.

Q Can you give us a rough approximation as to the amount of funds which were required in order to pursue these matters in Brazil?

A I am afraid I can't offhand.

Q You can't give us a rough approximation?

MR. TOPKIS: Is the question how much money BOC up to now invested in South America?

MR. YOUNDWOOD: I am happy to phrase it that way, in the last three or four years.

THE WITNESS: It is less than $10 million. It may well be less than $5 million.

By Mr. Youngwood:

Q How would you characterize your intentions with respect to the expenditure of funds, we will say, in the next three or four years in South America?

A We would expect to spend money. I really could not put a figure on it but we would expect to be spending money there.

Q If we were to think in terms of priorities, would we characterize South America as in the first order of priority or second order of priority?

A As compared with what?

Q Let us say Europe.

A It is very difficult to answer that question. So much depends on the opportunities that occur. I have not seen the budget forecast or the strategy review for Brazil over the next five years. There will be one being prepared now. I have not seen the result; hence I can't compare that with that prepared for Europe or Australia, nor for that matter for America.

Q This probably would have been true in 1970, '71, '72 and '73 as well; is that correct?

MR. TOPKIS: What would have been true, that the witness would have been unfamiliar?

JUDGE BARNES: I think you ought to rephrase that question.

MR. YOUNGWOOD: The witness has indicated he was unable to characterize which area was of the first order of priority and it depended on the opportunities as they arose.

THE WITNESS: I think we could in fact characterize that two or three years ago, in fact we did characterize it. You asked me how much money we were going to spend in Brazil this next year. I was trying to answer that question.

I can certainly tell you the order of priority that we gave, say, three years ago.

By Mr. Youngwood.

Q I know the order of priority you gave was three years ago. My question is not that.

You have indicated that the order of priority was such that it was impossible to state with a degree of assurance that it would remain inflexible for a period of a few years hence.

A I don't think I stated that.

Q Perhaps you would care to indicate what your order of priority would be with respect to Brazil at this point in time.

MR. TOPKIS: I think the witness has already been asked that question and answered it.

JUDGE BARNES: I think he has already been asked and he has answered it.

MR. YOUNGWOOD: I am sorry. I did not hear your comment.

JUDGE BARNES: I think he did answer your question a little earlier.

MR. YOUNGWOOD: Your Honor, my recollection of the witness' testimony is such that he has indicated that it is not possible to determine the exact order of priorities in the future because the opportunities are such that you have to constantly re-examine them.

JUDGE BARNES: He didn't say exactly that but

I think that is the answer to your question, whatever the record shows he said.

By Mr. Youngwood:

Q In 1970 would you say that the opportunities would have been such that you would have constantly had to re-examine?

A We had established a set of priorities in the years '69 and '70 and the general order of those priorities in fact did remain firm for several years. Quite obviously in any large business you can't read the future a few years out. But as far as our planning was concerned and the effort we applied to it, the priorities that we set in 1969 in fact stood up to the test of a few years of time.

Q Do you recall the amount of money that you anticipated you might spend in South America during this period of time?

A I don't recall the figure offhand, no.

Q I think the record will show it was in the nature of one million pounds. Do you recall ---

A It ~~would~~ could well be.

MR. TOPKIS: Do you want to show the witness something to refresh his recollection?

MR. YOUNGWOOD: I don't believe that is necessary.

By Mr. Youngwood:

Q Do you recall the amount that it was anticipated would be spent in the United States?

MR. TOPKIS: In some document at some time? I am not sure that the question is terrible finite.

JUDGE BARNES: I think we should have a timeframe, Mr. Youngwood. There is a five-year plan that was put in the record?

MR. YOUNGWOOD: No, Your Honor, I am not referring to that. Will you give me one minute, please?

By Mr. Youngwood:

Q What were your plans in July 1970 for investment in the United States?

MR. TOPKIS: In July 1970 for investment in the United States? If any, I take it?

MR. YOUNGWOOD: Yes.

THE WITNESS: Do you want a description?

In general we grouped America, that is U.S. and Canada together as one, North America as one. In our strategy we would have developed a figure which applied to both of those.

As of 1970 there would be a very modest amount of expenditure forecast for our high vacuum business and for our ~~[illegible]~~ sparklets.

There would be more investment, I am sure, than for either of those applied to Canox as an investment program in Canada. We may or may not in 1970 -- I would have to refer to the particular documents -- have been starting to consider the possibility of modest expenditure in the medical equipment field.

By Mr. Youngwood:

Q I am talking in terms of the dollars or pounds that you anticipated would be expended.

A I would need to refresh my memory by looking at the documents. But it would be relatively small.

Q Mr. Laister, in June 1971, you stated that in June 1971 you had discussions with American bankers. I am sorry. The record should read in June 1973 your testimony was that you had discussions with American Bankers.

A If you are referring to the British banking firm, Rothschild, and they brought their American associates, Newcourt Securities?

Q Yes.

A That is correct. That was a British initiative to me.

Q Did they state why it was that they approached you?

A No, I don't think they did. But I thought it was obvious.

Q What did you think was obvious?

A Why they approached me.

Q Why did they choose BOC to approach?

A They didn't tell me but I have an assumption.

Q What is your assumption?

A My assumption is that first of all I had quite good relationships with this British banker who was trying to get business with us and I presume that he took these American colleagues of his to visit other British industrial companies as well to demonstrate what opportunities existed at the depressed stock market level in America. That was one reason, I had good relationships and he was building on it.

Q Did he tell you he had taken these people to other ---

A He said they had other visits. In fact, they left me to make one, I don't know where to. The second reason is, as I discovered when I met them, that they seemed to have this special bit of information about Airco, that the bid was coming in the near future. They knew we were in the industrial gas business and I presume they thought it might be of interest to us.

Q You stated that Airco presented you with an almost unique opportunity?

A Yes.

Q You were referring to their favorable stock price at the time when you made the statement?

A I was referring to the whole situation.

Q Did you feel their stock price was somewhat unique in the industrial gas business?

A It was very low. It was lower, to my knowledge, than it had been for many years.

Q Was it as low price-earnings-wise as Chemetron?

MR. TOPKIS: I do not understand that question. Could I have it back, please?

JUDGE BARNES: Was the price as low as Chemetron, price earnings-wise?

THE WITNESS: I really could not say the time. I had not studied the Chemetron price earnings range.

By Mr. Youngwood:

Q You had not?

A I had not studied the Chemetron price-earnings ratio.

Q Why was it you were so familiar with the Airco price-earnings ratio? Is that what you said you were aware of?

A In general we were aware of the depressed American stock market price. I did not mean to imply that we had been following the Airco price. We knew that all American prices were down.

Q Let us discuss what you meant by the word "unique." What did you mean?

A The combination of circumstances was that the stock market was depressed in America. The prices for which stocks were selling was lower than for many years past. There was the possibility apparently of somebody else coming in to make a bid. The price was very low and there was going to be a bid from somebody else.

Those were the factors that to me at least made the possibility unique, if I may use the word.

Q The fact that the price of Airco stock was low and there was going to be a bid from someone else?

A Yes.

Q Then if there were any other U.S. companies where the price was low, and I presume you are talking price-earnings-wise?

A Yes.

Q Any other companies presumably in the world where the price was low and there was a tender offer made you would consider that a unique opportunity?

A If it dealt in the gas business and of the same size as Airco then it might have been a similar opportunity.

Q You were actually looking for someone in the gas business?

A We were not looking. It was brought to us. I reacted to it because it was in the gas business. If it had been, as I think I said in my direct testimony, in some other industry, I am sure it would have been less interesting.

Q Then the indsutries in which you were interested in entering, were those industries essentially with which you had the most familiarity?

A Yes, of course.

Q Did it matter that it was the United States? Was that significant?

A I think that was the thing that we regarded as part of this package, that it was in America, that it was not in, I don't know, China or somewhere. America was of particular interest.

Q As I understand it then, what would make this particular situation different than, say, Chemetron, would be that there was no competing tender offer for Chemetron?

A Yes. That certianly is what made a difference. It also, I think, told us that if we did not look at this opportunity, if there was going to be a bid made, then the opportunity might disappear.

If nobody is going to make a bid for the other company the opportunity remains there but if somebody is to come along and preempt the opportunity it has disappeared.

Q Let us discuss Airco and the other instances in which you may have heard there may have been tender offers made. Had you heard any other company had been interested in acquiring the stock of Airco at any time prior to that?

A It is hard to be precise about that, whether we had heard the odd rumor or not. Certainly within two to three weeks after that approach I heard other rumors.

Q What I am driving at is -- I am really asking whether you were aware of any other company within the last three or four years who may have approached Airco? Have you heard any other rumors about the acquisition of Airco?

A No.

Q How about Chemetron?

32 A About approaching Chemetron, yes, I had heard lots of rumors about Chemetron.

Q I presume also that the price-earnings-ratio at that point in time was low with Chemetron?

MR. TOPKIS: What point of time are we talking about? This is just taking us back three or four years in time prior to, I take it, a date in 1973 which would take us back to 1969 or 1970. I think it is important to have our time reference in mind.

JUDGE BARNES: I think so.

By Mr. Youngwood:

Q The point in time at which you had heard rumors that there were companies about to make tender offers for Chemetron?

A We had heard about tender offers for Chemetron in, I think it was, '69 or '70 when somebody came and told us they wanted to sell.

So, we knew about Chemetron being at least in some people's minds in a bid position.

Q Do you recall the price-earnings-ratio at that time?

A No, I don't recall the PE.

Q If someone had said the price-earnings had been low, that would have presented a unique opportunity?

A It was the whole package, I explained to you, that made me make that remark about Airco. Certainly I would not necessarily make the same remark about Chemetron.

Q Can you explain why?

A Because I don't know what factors we are talking about. You are talking about a hypothetical situation.

Q I don't mean to. I am attempting to determine what the facts were at the point in time that a tender offer was made.

MR. TOPKIS: This is the disadvantage of asking hypothetical questions and getting hypothetical answers.

The last question of record was a hypothetical question and that is the one Mr. Laister, I submit, has in mind.

By Mr. Youngwood:

Q I am referring to the point in time at which you had heard that there were rumors that Chemetron was about to be taken over, that there would have been tenders for Chemetron. I referred to the situation as it may have existed at that point in time. I think it is only logical to conclude that had the Chemetron price-earnings-ratio been what the Airco's price-earnings-ratio was in '73 you would certainly have characterized that as a unique opportunity.

A I was personally not so closely involved in the Chemetron situation in 1969 and 1970, but I can't ~~way~~ say whether or not I characterized it as unique or not at the time.

MR. TOPKIS: That is not the question and that is the disadvantage of these hypothetical questions. If it had

had a certain price-earnings-ratio would it have been as unique an opportunity as Airco If I had wheels, I would be a bicycle perhaps if I had certain other things like horns.

MR. YOUNGWOOD: If you had horns you would be what?

MR. TORKES: If I were a bicycle, my fantasy is that I would have three horns and a rear-view mirror.

By Mr. Youngwood:

Q I think you have indicated you are not too familiar with Chemetron and therefore it is not possible for you to give a full picture of your views as to what the situation was in 1970.

A I think you make a lot of assumptions.

JUDGE BARNES: He cannot tell you whether in 1969 that was what he would call a unique situation.

MR. YOUNGWOOD: Okay. I will accept that -- I guess.

JUDGE BARNES: That is my statement now. It seems to me that is what he has been saying.

By Mr. Youngwood:

Q The chairman also used the word "unique" when he referred to Airco, the chairman of British Oxygen Company.

A I am glad I was not alone in thinking of it then.

Q He indicated that "Airco was one of the three major American gas companies. An acquisition of over one-third of the common stock was a result of a determination to grasp unique opportunities to pursue long-term objectives despite distance at home."

Is his characterization similar to yours in respect to the use which he has made of that word?

MR. TOPKIS: May have that question back, just the last of it?

(The record was read by the reporter.)

THE WITNESS: I really can't speak to his characterization of the word "unique" but in general terms I would agree with his statement.

By Mr. Youngwood:

Q On direct you testified about a document which has been introduced into evidence as CX-76. On page "L" there are several firms listed. Those companies are listed as other possible bidders for Airco. There is a characterization opposite the names of L'Air Liquide, Messer, Aga, Impirial Continental/Calor Gas, Distillers/CO$_2$, Nippon Sanso and another category for "Other Japanese."

A Yes, I see that.

Q In each instance the author believes that it is highly improbably or very unlikely or that it is rather unlikely just a remote possibility that any of these companies would bid for Airco.

Do you share those thoughts?

A Do you mean do I share them now or did I share them then?

Q Did you share them then.

A I read them. It was by our planning manager. I would have to look at each one. I would have agreed with the L'Air Liquide one. I would not have put improbable for Messer.

MR. TOIKES: So that the record may be perfectly clear, the L'Air Liquide one is based on U.S. antitrust laws. Is that what the witness is agreeing to?

THE WITNESS: Yes. I presume antitrust laws would have stopped them. Otherwise, I would have thought they would have been a prime bidder if the antitrust laws allowed it.

AGA, I don't know. I would have an open mind on Aga.

Imperial Continental/Calor Gas, I would have thought that it is a remote possibility. It is a possibility but a remote one.

Distillers/CO_2, unlikely I think in terms of the air gases but had an opportunity come up to take part in the CO_2 business I think Distillers might well have been a contender.

Now, the Japanese companies, I never make judgments.

By Mr. Youngwood:

Q Mr. Laister, in December 1971 we asked you whether you thought there were any other foreign companies which you

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considered to be a potential entrant by acquisition or otherwise in the United States industrial gas market. Do you recall that?

A Yes, I think I do.

Q Do you recall what your answer was?

MR. TOPKIS: I am at a disadvantage, Your Honor. I don't have a copy of the transcript with me. May I follow it?

JUDGE BARNES: Certainly.

MR. TOPKIS: I would imagine the way to treat the witness fairly is to show him the question and answer to which his attention is being drawn. That can be done by reading.

JUDGE BARNES: You may read it to him.

Let us have a complete question and complete answer.

MR. TOPKIS: I insist that the witness be read the question and answer to which the counsel has referred to

MR. YOUNGWOOD: "Are there any other" -- the word used in the transcript is countries, but the correct word is companies -- "Are there any other foreign companies which you consider to be a potential entrant by acquisition or otherwise in the U.S. indsutrial gas market?"

"Answer: Are there any other --"

"Question: Foreign corporations, I mean other than United States corporations which you consider to be a potential entrant by acquisition or otherwise into the U.S. industrial gas market?

"Answer: We would have thought not but it can only be an opinion. We know of no such --- --"

And there is an interruption.

"Presiding Officer: Is there any other ---"

MR. TOPKIS: Who Is the Presiding Officer?

MR. YOUNGWOOD: Donald E. Purcell.

MR. TOPKIS: Very well.

MR. YOUNGWOOD: "Question: Is there any other foreign manufacturer of industrial gases, producer of industrial gases, as large as yours who is not presently doing business in the United States?

"Answer: There is one company which is a subsidiary of a larger company than us and that is Messer Greisheim.

"Question: Are they affiliated with Linde?

"Answer: They have an overseas agreement that operates outside of Germany and our understanding ----

"Presiding Officer: Who is they?

"Witness: Messer Greisheim. They are not affiliated in Germany with Linde. They are 56 percent owned by Hoechst.

"Question: Do you know of any other U.S. corporations which you would consider not now in the industrial gas business that you would consider potential entrants into that

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business?

"Answer: No, I don't."

By Mr. Youngwood:

Q So I can characterize what you have said, you have indicated that you would have thought there were no foreign corporations that could enter and you know of no domestic corporations that could enter?

A Yes. I think you must place that context in context, Mr. Youngwood. That discussion in fact took place as part of a longer discussion about companies considering whether or not they would enter America. Now, I think we have tried to differentiate all along between the companies that can and companies that sensibly would.

We certainly could have done three years ago, four years ago, and we have always admitted that could in a general sense is one way of looking at it.

What we have said is that we would not, we had taken a decision not to.

Now, that discussion there I think was in the context that there were other companies who when they look at the American market would come to the same conclusions as ours. I think that this is the difference between the way you are phrasing the questions now and the way that discussion took place then.

Q As I understand it, you don't believe that any of the companies to which we have referred on CX-76-L would have entered the United States market?

MR. TOPKIS: No.

JUDGE BARNES: Well, is this an objection?

MR. TOPKIS: Yes, Your Honor, this is an objection. This is an unreasonable characterization of the witness' testimony.

MR. YOUNGWOOD: He can answer that.

By Mr. Youngwood:

Q Is that an unreasonable characterization?

A Would you say the question again, please?

JUDGE BARNES: Read the question back.

(The pending question was read by the reporter.)

MR. TOPKIS: Would have entered the U.S. market? What does that mean? That is a kind of reverse subjunctive hypothetical.

JUDGE BARNES: The question makes sense to me. Can you answer it?

THE WITNESS: I think I can, Your Honor.

I do not believe that any of those companies would have entered by grass roots. I think, as I have indicated to you, that certainly presented with a different sort of possibility, a unique situation, then they might have done it. I testified in December that I didn't believe that any company would enter either in terms of grass roots or in terms of what I think you regard as toe-hold entry.

By Mr. Youngwood:

Q The word "used" was acquisition. I am afraid that includes unique acquisition.

A I would have to look at the testimony.

JUDGE BARNES: Read in the record what you are showing the witness.

MR. YOUNGWOOD: I am showing the witness pages 163 and 164 of testimony taken in the course of an investigational hearing in this matter in December 1973.

THE WITNESS: In the context of this, entrance by acquisition or otherwise, my view remains the same, that in fact under ordinary circumstances I don't believe that any of those companies that you have mentioned or any of the ones that we discussed here would regard entry into America as a logical and sensible thing to do.

But if you are presented with a unique situation -- and I am afraid that I did not so characterize it -- that there might be a situation which would become unique, then you may make a different decision. We did so ourselves.

Yet, we were not any sort of potential entrant up until thattime. The same applies to these other companies.

By Mr. Youngwood:

Q Then you would suggest that none of these other companies would be any more of a potential entrant than you were at that point in time?

A To the best of my knowledge.

Q If we use the phrase "potential entrant" would you say there were no potential entrants into the U.S. industrial gas market at that time?

MR. TOPKIS: Objection, Your Honor.

All right. It is just playing games, though.

By Mr. Youngwood.

Q I am asking a question.

A There were no ---

Q Were there any potential entrants into the United States gas market as of December 1973?

MR. TOPKIS: Were there?

JUDGE BARNES: In the witness' view were there any potential entrants into the U.S. industrial gas market as of December 1973?

THE WITNESS: In December 1973 my view was that any major corporation would notenter the United States gas market in ordinary circumstances. That was my view.

By Mr. Youngwood.

Q Of course, it is difficult to dream up specifically unique opportunities which might arise.

A Of course it is difficult.

Q Wehn you indicated that BOC had no intention to enter the U.S. industrial gas market what is it that you mean? What are you characterizing in your mind as the U.S. industrial gas market?

A The national industrial gas market in operating industrial gases in the way we operate elsewhere in the world, covering tonnage plants, supply schemes, liquid distribution and cylinder sales.

Q Let us use that market. Are you privy to statistics of BOC characterizing Airco's market share in the United States?

MR. TOPKIS: When?

MR. YOUNGWOOD: 1972.

THE WITNESS: I don't have the figures in my mind.

By Mr. Youngwood:

Q Do you have an estimate of what the market shares are for the top three people in the industry for industrial gas?

MR. TOPKIS: Does the witness now have an estimate of what the market shares of the top three people in the industry are? That is different from the last question.

JUDGE BARNES: At what time?

By Mr. Youngwood:

Q Say 1972, 1973.

JUDGE BARNES: Does he now have one or did he in December 1973.

MR. YOUNGWOOD: Does he now. Does he have one as to what it is right now.

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MR. TOPKIS: I wish we could fix on one question.

JUDGE BARNES: Let us have another question.

Do you know what is is now?

By Mr. Youngwood:

Q Does he have an estimate as to what it is now.

MR. TOPKIS: I object on the grounds it is outside the scope of the direct.

By Mr. Youngwood:

Q Does he have an estimate as to what it was at the time of the acquisition?

A We thought it was around about, between 20 and 30 percent.

Q We are talking about Airco now.

A Yes.

Q Which company did you believe was the largest company in the industry?

A Union Carbide.

Q What type of market share did you believe that Air Products had?

A We thought about the same, as I remember.

Q The same as Airco?

A Yes, in that sort of order.

Q Had you characterized Union Carbide's share exactly? Did you have any specific estimate?

A I am sure our market research people had better estimates than that which I am giving you but I had not looked at them.

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Q Mr. Laister, do you recall any discussions from 1971, say, through May 1973 with respect to possible acquisition of Airco by British Oxygen?

A Through to May 1973? No, there was nothing specific. In fact, I really can't recall.

Q Do you say you can't recall or there was nothing specific?

A I can recall any discussions. To my knowledge, there were none.

Q Did your Executive Committee discuss the possibility of acquiring Airco during that period of time?

A No, it did not.

Q Did your Executive Committee discuss the possibility of acquiring Burdett of Cleveland during that period of time?

A Will you tell me the time span again?

Q 1971 through May 1973.

A Not to the best of my recollection during that period. I can't quite remember when the Canox interest in the Burdett plant ended. Thatmay have been mentioned during that time but I can't recall anything else.

Q How aobut Chemetron?

A The Chemetron interest ended about '70 or '71. I can't be sure of the date.

Q When you talk about the Chemetron interest, are you talking about -- -

A Mr. Johnson of Loeb, Rhodes came over and started a brief discussion.

Q That was in January 1970 that Mr. Williams went over to Chicago?

A Yes, sir, after that there was no mention of anything to do with Chemetron in the industrial gas field.

Q How about Big Three?

A Certainly Big Three might have been mentioned because we had a license arrangement with them but only in that context.

MR. YOUNGWOOD: Your Honor, I would like to read into the record from the same testimony referred to earlier. This is a December 1973 transcript of the testimony taken at an investigational hearing in this matter, testimony taken of Mr. Laister.

JUDGE BARNES: It is not proper to read it into the record.

MR. YOUNGWOOD: I would like to call it to Your Honor's attention.

JUDGE BARNES: It is not proper to call it to my attention. You may use it in the cross-examination of the witness. If you feel it is helpful to you, you may use it in cross-examination. Ask him the same questions.

MR. YOUNGWOOD: I already have, Your Honor.

JUDGE BARNES: Is there a conflict in his answers then?

MR. YOUNGWOOD: The statements which are being made now are inconsistent with statements which were previously made.

JUDGE BARNES: Read him the previous question and answer.

MR. YOUNGWOOD: The testimony was:

"Presiding Officer: Were any discussions about acquiring Airco 1971 to date?"

MR. TOPKIS: You mean by the Executive Committee or BOC?

MR. YOUNGWOOD: "Presiding Officer: Any discussions at all by their Executive Committee?

"The Witness: The Executive Committee had discussed the possibilities of three major marketing areas in which it wished to increase its competitive position. They were" -- the word used is "pan" but I am sure the correct word is span -- "the Continent of Europe and American?"

THE WITNESS: No, that is Japan. It is not "span". It is Japan.

MR. YOUNGWOOD: "It used to discuss the possibility inherent in that general program from time to time, not as a sort of positive black and white thing.

"Presiding Officer: Were there any discussions

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regarding Airco from 1971 to date?

"The Witness: I am sure Airco's name was mentioned during those discussions as were other companies.

"Presiding Officer: In the United States?

"The Witness: Yes. I suppose we would have mentioned the names of other companies during that discussion.

"Presiding Officer: What companies would those be?

"The Witness: We would have mentioned with no possibility of acquisition companies like ---

"Mr. Topkis: That isn't the question.

"The Witness: In the context of acquisition or or tender offer are you asking what companies names did we mentioned in our Executive Committee in any context?

"Mr. Egan. Regarding possible entry into the United States.

"The Witness: Regarding a possible entry into the United States?

"Mr. Egan. Yes.

"The Witness: We must on one occasion at least in the last few years have mentioned the name of Chemetron.

"Mr. Egan. Were there any other names mentioned?

"The Witness: Not specifically to my memory.

"Presiding Officer: Was the name Liquid Carbonics ever mentioned?

"The Witness: I don't remember it being mentioned.

"Question: Was the name Big Three ever mentioned?

"Answer: Yes, indeed.

"Question: Was the name Alabama Oxygen mentioned?

"Answer: No.

"Question: Was the name Burdett Company of Ohio mentioned?

"Answer: Yes."

MR. TOPKIS: I would like to go on because it will demonstrate that the question has totally lost its thread.

MR. YOUNGWOOD: "Presiding Officer: Burdett Company of Norristown?

"The Witness: I thought there was only one Burdett.

"Presiding Officer: Was the name of Air Products ever mentioned?

"The Witness: Yes, we used to mention the name Air Products regularly in our meetings.

"Mr. Topkis: In connection with the possible acquisition?

"The Witness: Not the possible acquisition."

MR. TOPKIS: We need just another couple of questions and the pointlessness of this whole thing will be demonstrated.

May I, Your Honor?

JUDGE BARNES: How much of this are we going to read in the record?

MR. YOUNDWOOD: The last several lines to me are pointless. I think Mr. Topkis can have the opportunity to ask this on redirect.

JUDGE BARNES: Let us put it all in the record in the same place.

MR. TOPKIS: I said, "In connection with possible acquisition.

"The Witness: Not in connection with the possible acquisition, I am sorry.

"Mr. Egan: What about the other firms you just mentioned?

"The Witness: I don't want to give you the impression that we were mentioning these names on a regular basis as a possibility of acquisition. That would be totally misleading, but in reviewing the American situation the names of such companies were mentioned just as we mentioned the names of companies in Germany and Japan."

By Mr. Youngwood:

Q I think this has made clear that these particular companies were mentioned in the meetings of the Executive Committee in 1971. Do you recall those meetings?

MR. TOPKIS: 1971, '72 or '73.

THE WITNESS: That statement that is there is perfectly correct. That is in the course of our discussions we mentioned the names of just about every gas company in the

51 world. We certainly had no intention of acquiring them all.

By Mr. Youngwood:

Q You talked on Friday a little bit about showing us why this was a good investment.

A Yes.

Q How much did BOC borrow in order to acquire the stock?

A It was about $85 million. I can't remember the precise amount.

Q Did that include the expenses?

A Yes, it was $60 million for the direct share purchase, 4 million shares, and then it was expenses for the various groups where there are costs involved.

Q Did you incur any expenses over and above the amount you borrowed?

A The amount we borrowed? Expenses in America were met with the dollar expenses. I am sure we incurred some sterling expenses in the UK. We would not have to make the dollar borrowings for that, for example, the payment of the British Merchant Bank involved and the shareholders' statements that had to be put out are all associated with the tender offer.

Q Was the cost of the tender offer over $85 million?

A I really can't say.

MR. TOPKIS: Objection. What difference does it make? Suppose it was $90 million.

MR. YOUNDWOOD: I propose to show the true reason for the acquisition, to determine whether the acquisition was for purposes of investments, for instance. We had what appeared to me to be a slight offhand entree. I would like to see whether it really is.

In order to make that determination we have to determine the cost of the stock and then we will see what the interest expenses might be, et cetera.

MR. TOPKIS: I will sit back.

JUDGE BARNES: All right.

THE WITNESS: I can't give you a precise figure. Not just straight off like that. I don't have it with me and I don't know.

By Mr. Youngwood:

Q About $85 million, is that a fair place to start?

A It is possibly a little less than that. If you say about $5 I would not quarrel.

Q Now, your cost on that $85 million interest-wise is 10 percent a year? Is that also approximately about where it would average out, do you think?

A That is a reasonable figure to take. It has been both above that figure and below it.

Q So that your cost, your expenses per year would be $8.5 million in interest; is that correct?

A That is correct.

Q Airco pays 80 cents a share and you have 4 million shares?

A Yes, that is correct. Their dividend is 80 cents a share.

Q So that income from those dividends is $3.2 million?

A Yes, but their earnings, of course, are greater.

Q Yes, I understand, but the income that you received from the dividends is $3.2 million and your expenses are $8.5 million, the expenses of owning the shares of stock are $8.5 million per year?

A Yes. I think we should make it clear that the income is after paying tax, after tax has been paid and the expenses of Airco making allowance for tax.

Q Let us presume we take those dividends and ship them back to England. You have no taxes on it.

A There is a double taxation agreement between the UK and the U.S. If you want to get into a really complicated tax discussion, then you should call somebody else, not me.

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Q My question is, you have indicated that there are no taxes on your dividends.

My question is, are there taxes that you ship all of your dividends back to England?

Are there not taxes on half of your dividends?

A There are modest differences in taxation rates, I am sure, between the two countries but there is a double taxation agreement which means that you do not pay tax twice.

That is the basic rule. One company may pay 50 and the other 52, I am not sure, but you can take it from me that you do not pay tax twice. If it is a marginal difference, you pay that.

JUDGE BARNES: In other words, if Britain was 52 percent and the United States, 50 ---

THE WITNESS: We would be paying two percent. That is my understanding of it anyway.

By Mr. Youngwood:

Q CX-293-C, the last sentence on the page states that, "If the total dividend paid by Airco to BOC Financial Corporation were transferred to the United Kingdom, certain additional United States and United Kingdom assets would become payable to an estimated maximum of 450,000 pounds."

Do you disagree with that?

A No. If it states it there, I am sure that calculation was correct at the time.

Q There can be no doubt but that the expenses of owning these shares is significantly greater than the income received from the shares?

A That is a great oversimplification. I would think it is probably an incorrect statement. I explained on direct testimoney that when we own over 20 percent, we consolidate the earnings as far as our profit-and-loss sheet is concerned, our balance sheet.

Q My question related to the income that you received from the stockholding and the expenses which you paid out from the ownership of the shares.

A I also stated that in the shorter term, there is a negative cash flow which is not an uncommon occurrence.

But for profit-and-loss purposes, which is, in fact, how we report our progress to our shareholder, there is a very positive contribution.

Q You were referring not to the monies which were taken in or given out but only what you would be able to report to your shareholders on your expense, income expense sheet?

A I mentioned both situations.

JUDGE BARNES: In other words, your profit-and-loss statement would look better than your cash-flow statements?

THE WITNESS: Yes. AS I say, that is not an unusual occurrence, Your Honor.

By Mr. Youngwood:

Q No, Airco's price-earnings ration, taking the $20-a-share and the $1.66 income, was between 12 and 13?

A That is the price we paid. That was not, in fact, the price of the Airco stock when we looked at it when this opportunity arose.

The price-earnings ratio, then, was, in fact, much lower. The Airco stock was selling for around about the $11 mark. I cannot really remember whether it was just below 11 or whether it was just above 11.

But let us say about 11. The price-earnings ratio that I referred to is the one calculated at the $11 mark and, of course, then, the price of the Airco stock on news of this possible bid --- I think when, in fact, the Curtis-Wright announcement came out, the price rose in the 12-1/2 to $13 range, the price-earnings ratio changed again at that point in time.

Q But your calculations are made on the basis of $20 a share insofar as the reports to the shareholders?

A For our purposes ---

MR. TOPKIS: Wait, wait, wait.

Could we have that question back, please?

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JUDGE BARNES: Let us have the question reread.

(The pending question was read by the Reporter.)

MR. TOPKIS: What does that question mean? I do not understand it. Is there some report to shareholders which is based on a $20-per-share purchase price and something or another?

By Mr. Youngwood:

Q Is there?

A Not as a routine. We told our shareholders we had paid $20. I think you got a copy of the document saying so.

Q So, your calculations are based on $20 a share?

A What calculations?

Q Your calculations which you made on Friday which showed that this was a good investment.

A Of course. That is,$20 a share.

Q Based on that, we have a price-earnings ratio of between 12 and 13?

A The PE ratio at that point in time is irrelevant. We are not talking about price-earnings ratios.

Q Suppose we acquire a company with a price-earnings ratio of about eight and we acquire more than 20 percent and, of course, we have more to report to our shareholders because the price-earnings ratio is lower?

A Yes.

Q The entire illustration depends on the price-earnings

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ratio?

A Of course it depends on the price you pay.

Q Using your illustration, CX-293-C indicates that the net benefit for the full year to BOC will be 1.1 million pounds. That is, on 85 million pounds?

A Dollars.

MR. TOPHIS: Not quite.

MR. YOUNGWOOD: $85 million. I am sorry. 1.1 million pounds ---

MR. TOPHIS: No, it is not. If Mr. Youngwood will be good enough to read the full sentence, it will be very clear. If I may, I will do so.

JUDGE BARNES: Read the full sentence.

MR. TOPHIS: "The proportion of Airco's earnings attributable to the BOC shareholding in Airco will be included in BOCs consolidated profit-and-loss account.

"Assuming Airco earnings of $1.66 and dividends of 80 cents per share, as in 1973, and the current interest rate of nine and three-eights percent on the $80 million borrowed by BOC investments, the net benefit for the full year to the BOC consolidated profit-and-loss account would be 1.1 million pounds."

MR. YOUNGWOOD: That is what I was trying to say.

THE WITNESS: That was correct as of that date.

By Mr. Youngwood:

Q On $85 million?

A Whatever the figure was in there. You have me confused now, $80 or $85 million.

Q What I am concerned about is determining if you do not believe you would have done significantly better by putting money in the bank?

A That is true about most of industry today, is it not?

JUDGE BARNES: Let us adjourn until 2:00 o'clock.

XXXXXX (Whereupon, at 12:30 p.m., the hearing recessed to reconvene at 2:00 p.m. the same day.)

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FRANCE
00 p.m.

AFTERNOON SESSION

2 p.m.

JUDGE BARNES: The hearing will be in order.

- -

PETER LAISTER, the witness on the stand at time of recess, resumed the stand and testified further as follows:

CROSS-EXAMINATION (continued)

By Mr. Youngwood:

Q Mr. Laister, as we concluded before our break we were discussing the mathematics of the funds expended for the purpose of stock of Airco. Would you say that the BOC Airco discussions were directed solely towards the financial investment in Airco?

MR. TOPKIS: I don't understand what that question means, Your Honor.

MR. YOUNGWOOD: I will be happy to rephrase it. Possibly I will be able to make it clearer.

By Mr. Youngwood.

Q Was the sole reason for purchase of Airco stock a financial investment as such in Airco?

MR. TOPKIS: Your Honor, we have not tendered here as a defense that this acquisition was made to come within the investment exception of Section 7.

JUDGE BARNES: I am sure he means were there other considerations than an investment.

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MR. YOUNGWOOD: Yes. I would be happy to have Mr. Laister indicate any other considerations that did exist.

THE WITNESS: Yes, I will do that.

Incidentally, can I presume now that you understand the arithmetic?

By Mr. Youngwood:

Q Mr. Laister, I understand what it is that you have said.

A Well, I thought back a little bit to how you started and I have realized that your comment at the beginning about sleight of hand was on the record and I find that both disturbing and rather offensive.

As a director of a British public company, we have a great degree of responsibility in a matter like this to our shareholders, and I think I would like to make it quite clear that I don't regard that as a light matter.

I think it important, therefore, that you do understand the arithmetic.

Q Mr. Laister, I heard every word that you said. I think one thing is clear. What you were doing was saying that it is pertinent what the price earnings ratio of a corporation is, because once you know that and once you can consolidate, you can merely transfer earnings from a low price earnings ratio corporation to a high price earnings ratio corporation, and thereby have the balance sheet of your higher price earnings corporation appear to portray a picture which would mc-3

show it having increased earnings per share.

Now, that is as I understand what you have said.

A I think that I didn't quite say that. I think I said that as far as the economics of this affair were concerned, that we were buying a stock which was in fact earning us 10 percent ~~of~~ after tax and our interest payments are somewhere in the region of 4-1/2 to 5 percent -- probably nearer 4-1/2 percent after tax.

The balance represents a benefit to the shareholder of BOC. There is a slight negative cash flow probably in the short term that goes with that.

Now, you draw your own conclusions about the effect on the balance sheets.

Q I think we went over this and determined that the net benefit to BOC was 1.1 million pounds --

A Correct.

Q --- per annum. We have an investment of $85 million. I draw my conclusion from those figures using your means of arithmetic. I really don't want to press it.

A I would think not.

Q Well, fine.

The reason for my questions was so that we could have the record portray at least another way of approaching it. I didn't mean to be offensive and in the event I was, I am sorry.

A I accept that. Thank you.

In terms of your question about other reasons, I think I have explained other reasons. There were a number of reasons why I personally thought that the tender offer was the right thing to do for BOC and for its shareholders.

First of all, it shows a return upon the investment.

Secondly, it adds to the international strength of BOC.

Thirdly, it gives us a place in the American market which we could see no other way of obtaining.

Q In the American industrial gas market?

A In the American industrial gas market.

Fourthly, it gives us the opportunity of benefiting in the longer term and with providing benefit to Airco in terms of some product or technological interchange, but that is for the future.

Lastly, it places us in the same marketplace as our major international competitors.

Q Let's discuss that. Why is that important to you, sir?

A Basically I think because if they operate in America and there is technological or other development or marketing development, then there are opportunities open to them which are not open to us. That is the first point.

Q Such as?

A Well, I don't know. You know, it is a very large marketplace. Certainly the use of liquid nitrogen for freezing has developed in America ahead of the way it has developed in

Europe. Those who take part in America will obviously have that technology available to them, so it is all matters like that.

I don't feel that we could pretend to be a fully international company in the long term if we had given no consideration to the possibilities of the American marketplace.

Q Is it important to you to be a fully international company, as you described it?

A I think management thinks it is, and in the long term I suppose it is an open question.

Q In order to be a fully international company in the long term, I would presume it would be necessary to enter the rapidly developing economies of the world, would it not?

A Yes, and we are doing that.

Q Would it also be necessary in the long term to have entered the United States market?

A Desirable rather than necessary.

Q You believe it would have been possible then to be a truly international company, although you had no presence in what is described as 40 to 50 percent of the industrial gas market of the free world?

A Well, I said to you that I think we regard it as desirable. But we have operated for 75 years without being there and we have quite a good record of profit and growth.

Q Last Friday we discussed -- or we didn't; you and

Mr. Tomkis discussed -- a possible entry into the United States via the Canox route. Do you recall your testimony on that?

A Yes.

Q You stated that you felt that that would not be a wise move, and in fact I believe your testimony was to the effect that it would be quite impossible to enter the United States that way.

A It would be impossible to do it commercially. I mean, again it is ---

Q Commercially?

A Commercially. It would never make economic sense and it would not have been a wise move for other reasons as well.

Q What are the other reasons?

A Well, I mentioned one, as an example, that we don't have the management strength in canada. That is important. We don't have the tonnage ability in Canada. That is quite important if you are invading across the border.

We don't think that it is sensible to operate such a large and well-developed market from a very much smaller and relatively less well-developed market.

Q You comments are, I take it, with respect to the facilities that you have now in Canada; is that not correct?

A That we have now or that we could foresee.

Q Do they relate to an entry on a regional basis or are

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they concerned only with a nationwide entry?

A It would apply to either.

Q You believe it would not make economic sense to sell in the Buffalo, New York area, for instance?

A No, if we have no facility to do it.

Q Oh, but our testimony thus far has established the fact that you had every desire of obtaining the Niagara Falls plant of the Burdett Oxygen Company of Cleveland.

A Yes, in order to in fact give us adequate product supply for Canada. If there had been a surplus, I think the testimony was -- now, I would agree with it -- that if there is a surplus you sell it locally rather than vending it if you can, but the object of the exercise was not to enter the Buffalo region market in looking at the Burdett plant. It was to supply a sound source for our Canadian market which we don't have.

Q I think we went through these numbers before, but we determined that the total tonnage or the total sales per day of gas in Canada was somewhere in the neighborhood of 35 tons a day for Canada.

MR. TOPKIS: You mean Canox production or what?

MR. YOUNGWOOD: Canox sales.

JUDGE BARNES: You didn't have Canox in your question.

By Mr. Youngwood:

Q I am referring to Canox, the total Canox sales, as I recall them, were in the neighborhood of 35 tons per day. Does that sound about right to you?

A I don't think it is correct.

Q Would you care to tell me your understanding as to what their sales are?

MR. TOPKIS: We had the Canox president or chairman on the witness stand, Your Honor. I frankly don't remember his testimony precisely except that I do know the 35 tons a day figure related to the area around Toronto. I don't think he testified as to what total sales are, but I think they are stipulated.

If the are not, they are certainly readily available from sources other than Mr. Laister's memory.

MR. YOUNGWOOD: But Mr. Topkis asked Mr. Laister as to the likelihood of an entry into the U.S. market from Canada.

JUDGE BARNES: All right. You may explore the witness' knowledge of the market.

By Mr. Youndwood:

Q Perhaps you can tell us your knowledge of the tonnage in the Toronto area. I would be happy to confine myself to that. Canox tonnage sales.

A I only know figures that I have heard at the trial in terms of actual tons, but my understanding of the purchase of that plant was that it would allow two things to be done.

One is it would allow us to close down our present facility, which is about 25 tons.

Secondly, it would obviate the need for purchases from our main competitor, and I thought that that in total was the same sort of figure as our own production. We make about half, is my understanding.

Thirdly, it would allow us growth. We expect growth in that area and once you have absorbed, let's say, about 100 tons, then you may or may not sell the rest locally if you can't get rid of it in Canada. That was the order of priorities placed upon that production.

Now, I don't think that Canox, to my knowledge --- and certainly they have never sent to the BOC board, or to my knowledge even to England, a detailed analysis of the possibility and the economics of purchasing that plant of Burdett.

All they have done is inquired of ~~Lowner~~ Loveman, but they have never carried the case further than that which is why I can't give you any figures.

Q The reasons I am asking the questions I am ~~is~~ --because your claim has indicated that your company did desire to purchase the plant.

A Quite right.

Q We have established also that you ---

A We were interested in the purchase. Now ---

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Q Well, in point of fact, there were contacts made, sir.

A That is right.

Q With Mr. Loveman. In point of fact Leslie Smith suggested that contacts should be made but what ---

MR. TOPKIS: What. I don't believe there is anything in the record to that effect.

JUDGE BARNES: I don't recall that either.

MR. YOUNGMAN: Your Honor, we have attempted to prove our case in two ways. One, by virtue of testimony and, two, by documents, and I think, if Your Honor might not remember -- we did not make specific reference possibly to it in testimony -- I can assure you that Mr. Smith did suggest the contact be made.

JUDGE BARNES: And how are you going to prove that? By documents in the record?

MR. YOUNGMAN: Documents have been entered into the record, yes, and we will refer to them in our findings.

THE WITNESS: I can assure you that that possibility in my belief did not in fact start in London. It started in Canada. That is where it started.

Mr. Smith may or may not at sometime have shown in the record -- have responded to Canox about their only degree of interest should be that, but the idea started in Canada. But the point I made to you was that there have been no detailed discussions, no price has ever been mentioned, ms-11 no volume figures have ever been discussed.

Canox management to my knowledge don't even know the actual production capacity of that Buffalo or Niagara Falls plant.

All that would have been gone into had Burdett shown the slightest degree of interest in selling the plant off. They did not, so we never carried the case forward to see whether it was economically viable or not.

Q I will accept what you are saying, sir. However, I would comment that there has been an interest discussed. You responded to Mr. Tomkis that you felt there was no way that British Oxygen could come into the United States by virtue of its Canox subsidiary.

Would you say the same thing if it acquired the Niagara Falls, New York, plant to Burdett?

A Yes, I would say the same thing.

Q Do they have tonnage capabilities?

A They have, as I understand it, between 100 and 200 tons of product.

Q Do they have pipeline customers?

A I don't know.

Q Well, then, your comments don't relate to any pipeline customers that they would have.

A I presume that the plant was built to supply a customer down a pipeline, and if you bought the plant, then that pipeline contract would continue, and if you work out what is the surplus once you have taken that pipeline quantity, I think you will find that it probably approximates the Canox Canadian requirement.

Now, you can't buy the plant and not buy the contract for the pipeline customer. So that the plant is there to serve a customer down a pipeline.

If you buy the plant you buy the contract, and there is a small surplus to take back to Canada.

Q Mr. Laister, there is 35 tons a day in Toronto. We are talking about a plant which has 100 to 150 tons and are you saying that by virtue of a purchase of a plant of that nature that that would not be a logical way of entering the United States?

A I don't think you listened to what I was saying, Mr. Youngwood.

Q I am trying.

A Can I do it again?

You have a plant which, let's say, has 150 tons capacity, for example. That plant is built specifically, it is my understanding to supply a pipeline customer who probably takes 100 tons.

I don't know for sure but I am telling you what is probably. He takes 100 tons. When you buy the plant you also buy the commitment from that one customer to continue his supply of 100 tons.

Now, you have probably got a surplus of 50 tons. Now that 50 tons that is left is the only product you have got available from that plant, and that in fact is the product that Canox were interested in in going back to Canada.

You cannot buy the plant and sever the contract.

Q That is all hypothetical, right? You do not know what the tonnage is by pipeline. You don't know what the capacity of the plant is. Are both of those statements correct?

A I am sure, however, that Burdett's customers don't have a customer which allows his supplier to sell the plant from under his feet.

Q But do you know what the capacity of the plant is?

A I don't.

Q Do you know what the pipeline gas to be supplied is?

A No. You were asking me to suppose and I supposed.

Q Okay.

Do you have an idea as to the cost of that Niagara Falls plant? Were discussions had as to its possible cost?

A No.

Q If Canox can buy -- or BOC since they are the parent of Canox -- if they can buy a plant or might be interested in buying a plant in Niagara Falls, New York, why couldn't they build one?

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A Physically it is possible, but they don't have any customer.

Q Oh. Then the necessity would be to buy a plant with presently existing customers?

A If you are buying an existing plant then it will have existing customers. If you are going to build a plant you would not do so until in fact you had a customer who was contracted to you.

Q Then the difficulty in building a plant would be that you wouldn't have a base load of customers; is that correct?

A That would be our difficulty, yes, or one of them.

Q And that would be why you could not build a plant similar to the plant in Niagara Falls, New York?

A That would be one of the reasons.

Q All right. Could you build a plant in Toronto?

A If we had a supply scheme, if we had a customer large enough to take a sufficient volume, but I am sure you have gathered that you only build these large plants normally in order to provide a tonnage contract to a customer.

You do get a few merchant markets built, but only when you are well-established in the marketplace and already have a large load, but when you are starting off from scratch, then you don't build a tonnage plant unless you have a tonnage customer.

Q Suppose you have 35 tons a day in the area. Would that be a pretty good place?

A No, not to build a 200 ton plant.

Q What about a 100 ton plant?

A That wouldn't really be very economical, but I am sure that Canox have looked at varying sizes of plants and what to do in order to provide their own capacity.

Q When BOC looked at these customers and the situation that existed in Canada, what did it determine?

A Canox looked at it. We didn't look at it.

Q We have been through this before. Canox is the subsidiary of BOC.

A Yes, I think it is perfectly true that it is, but you must be clear whether you mean what thinking and thought and action took place in Canada or what thinking and thought and action took place in London. There is a difference.

Q Who was it that was interested in acquiring the Niagara Falls, New York, plant?

A Canox.

Q Leslie Smith -- you know of no ---

A If Canox was interested, then the chairman would respond with interest.

Q I think what you are saying is that Canox doesn't have the financial autonomy to go through with it on its own; is that right?

A I didn't say that, but in fact that would normally be the case. They would have to get approval from the BOC board to purchase a plant of that size.

Q And is that what you mean when you are differentiating between Canox and BOC?

A That is one of the differences; not the only one.

Q All right. Now, You have said also that Canox does not presently have the management?

A That is right.

Q Does BOC?

A We don't have any American management.

Q And it would take American managmeent to go into the United States then?

A Oh, we would strongly think that, yes.

Q You don't believe you would have been capable of heading up such an operation?

A That is not really for me to say, but by and large our policy consistently throughout the years has been to staff companies with nationals.

Now, the only places where we have not done it have been under developed countries where there has not been the natural skill in the indiginous supply of engineers, and even there, in places like India and Africa, we train people up to take on the management burden as quickly as possible.

Q And as I understand, the difficulty with Canox, Canox

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doesn't have any American people on its payroll who would be capable and British Oxygen doesn't have any American people on its payroll who would be capable, and that is why there isn't adequate management.

A I mean the people that are on the payroll are pretty much occupied, especially in a small company like Canox and I really don't know whether it has the odd Americans on its payroll or not. I don't believe BOC in London has any Americans on its payroll.

Q We have heard a lot during this trial about the possibility of a company just going on out and hiring people to perform tasks of that nature. That wouldn't be possible in the instance of BOC? They could not have come through Canada and hired someone for that purpose?

A Well, the whole idea is an impractical one. When you say "could", you must not try and trap me into using "could" and "would" differently.

The whole idea is impractical. We never gave it any serious consideration or indeed any consideration, the entree into the American market from Canada.

Q But you did give consideration and in fact contracts were made with respect, one, to the acquisition of Burdett of Cleveland, and, two, with respect to the acquisition of the Niagara Falls, New York, plant, at which time there would have been any number of customers and tonnage furnished to

MR. TOPKIS: If Your Honor please, I think that was more a speech than a question.

MR. YOUNGWOOD: I am asking for an answer.

MR. TOPKIS: Do you want a counter-speech or an answer to a question?

MR. YOUNGWOOD: If I want a speech, I would have asked for one.

JUDGE BARNES: Can we have the question read?

(The pending question was read by the reporter.)

THE WITNESS: Almost all of that is incorrect as a statement. We did not give consideration to Burdett. We gave consideration, or Canox asked Burdett if they would sell the Niagara Falls plant.

I have no idea how many American customers would have come along with that plant but certainly the one at the end of the pipeline would.

By Mr. Youndwood:

Q I think I can summarize your testimony in this regard by ---

MR. TOPKIS: Do we need a summary of his testimony, Your Honor? We have been over it about four times.

JUDGE BARNES: Don't summarize it. Ask more questions or stop cross-examination.

MR. YOUNGWOOD: All right.

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By Mr. Youngwood:

Q It would be true then that your answer as given to Mr. Topkis on Friday would hold, even had you acquired the Burdett plant in Niagara Falls, New York?

A What answer?

Q That BOC would not come into the United States via its Canox subsidiary?

A That is correct.

Q Okay. Do you know the square footage space of Fraser Sweatman?

A No, I don't, but it is a small building.

Q What is the square footage of Harris Lake?

A I think 8,000.

Q How do you know that?

A I really don't know.

Q You don't know?

A I don't know how I know.

Q Okay. You stated that Harris Lake and Fraser Sweatman operated autonomously.

A Within certain constraints. They operated from a management point of view pretty autonomously, yes.

Q Could they sell new products without the approval of London?

A Oh, yes. Certainly their product range is not approved by London.

20 Q Could they enter into new geographic areas without the approval of London?

A Within certain limits. That is a very wide question, and if they wanted to start exporting to somewhere in the world the answer would be no, but if they wanted to sell in a new town or territory in America, the answer would be yes.

Q Well, what constraints are there upon the subsidiaries?

A Policy constraints and, of course, finance restraints.

Q Well, then, when you refer to the autonomy, what you are referring to are everyday, day-to-day operations?

A Yes, generally speaking.

Q On Friday reference was made to CX-103. I will be happy to show it to you.

A Yes, I remember that.

Q CX-103 was said to be the view of William Moeller on Friday. Was that correct?

A Yes, that is correct.

Q All right. Was it said also that this was his first view of Mettashield on a five-year basis?

A I think it was his first view on a five-year basis. I don't recall seeing anything on a five-year basis before from him. I had only been with the company a matter of weeks rather than months at that time, so I expect it was his first view.

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Q Well, He forecast at that point in time that there would be substantial increases in sales and net profits. What were your thoughts with respect to ~~[illegible]~~ Medishield and future profits and future sales, the scope of its activities?

A ~~[illegible]~~ Medishield, Inc., you mean the American company?

Q Yes, sir.

A I expected that Harris Lake would maintain its share of the anesthetic market. I expected that Fraser Sweatman would in fact become profitable in the course of time. It wasn't profitable. Harris Lake was profitable at that time.

With Fraser Sweatman I expected that it would continue to market the ~~Y frane~~ Cyprane vaporizer and that ~~that~~ would be a relatively static sort of business because it is a limited market.

But I also expected growth from Fraser Sweatman in the course of time in the areas of dental analgesic equipment and in the area of veterinary equipment which are more specialized and in fact appear to be faster growing areas than ordinary anesthetic areas.

Certainly veterinary and dental has been rather neglected and looked as though it might come back, so it was modest growth for Fraser Sweatman. Neither of those areas are hugh, but they did represent an ongoing future for the company.

Additionally, I was very hopeful that Moeller would be able to develop the possibility of our getting into the orthopedic or prosthetic joint business in America.

And as far as that was concerned, that could either have been by modest acquisition plus natural growth and building on our skills that we had in-house. Now, I dealt only with the U.S.A., but included in ~~Mettashield~~ Medishield, Inc., and that figure, of course, is the future of two other companies.

One is ~~Mettashield~~ Medishield of Canada, I have forgotten its name. It is a special name. But it was the Canox subsidiary that was split off which was in the general medical products area.

And the other was Fraswer Sweatman of Canada, which was the Fraser Sweatman of Canarm of Canada and I expected developments for them of the same nature.

But I have directed most of my answers to the American.

Q The targets listed here for 1978 were $40 million with net profits of $2.8 million and rate of return on growth at 20 percent a year.

Is that pretty much in accord with your thinking also?

A I think the 20 percent includes acquisitions but I would have to look at the figure.

MR. TOPKIS: Can we show the witness the figure?

MR. YOUNGWOOD: Surely.

(Document handed to witness.)

THE WITNESS: Thank you very much.

No, I am sorry. The 20 percent is the internal growth. It is 12-1/2. I would have thought that was rather

We reckoned the market was growing at seven or eight percent and we would think that we were going to be in for at least eight or ~~none~~ nine percent worth of inflation, so you have got 15 or 16 percent of growth as far as this figure is concerned before you do anything.

I would have hoped that prosthetics would grow much faster than the anesthetic areas of Harris Lake, or the vaporizer area of Fraser Sweatman.

By Mr. Youngwood.

Q I am concerned myself with the $40 million figure for 1978 sales. Is that in accord with your thinking?

A My guess would have been that allowing for the Canadian interests as well, that is probably overstating it, but just on the sample arithmetic I have mentioned, if you add on 15 percent compound growth on a starting point of about total business of $8 million including Canada, plus $14 million of acquisition that you pick up on the way, you are between $30 million and $40 million, so it is not an outrageous estimate.

JUDGE BARNES: Is there any overlap in the product line of Harris Lake and Fraser Sweatman?

THE WITNESS: Not really so. There is just a little bit, in that Fraser Sweatman has always sold a very small number of anesthetic machines of the order of about -- I don't know -- 20-odd a year, something like that.

MR. TOPKIS: Excuse me, Your Honor. This is stupulated, and rather than draw on Mr. Laister -- may I show you the figures? It is in Camera Mr. Kaplan reminds me.

The top line on each of them for anesthesia machines has the figure.

MR. YOUNGWOOD: Have you completed your response to His Honor's question?

THE WITNESS: On the overlap I am sure there are some other minor bits and pieces, Your Honor, but nothing of any substance because Fraser Sweatman's product line is primarily vaporizers, about half or more, and it doesn't clash with the Harris Lake line at all.

The Harris Lake line is respirometers and accessories.

By Mr. Youngwood:

Q Well, Harris Lake of course also does sell anesthesia machines.

A I mentioned that before, respirometers.

Q Yes. You indicated that Fraser Sweatman had always lost money.

A Well, when we purchased it it was losing money and ---

Q Fraser Sweatman of America?

A Yes, Fraser Sweatman of America, and it was losing money after we had operated it for a year.

Q In the testimony that you gave with respect to Ray Williams ---

A Yes.

Q ---- you stated that he was on a training mission here in the United States.

A That is correct.

Q And that part of his training was to visit any number of companies here in the United States?

A Well, that ---

Q Is that essentially correct?

A As a part of his training he did visit companies. He visited them in fact. I think, on the advice and sometimes together with Fraser Sweatman who, of course, is well-known in the medical business in America.

Q Fraser Sweatman set up the appointments for Mr. Williams around the United States, didn't he?

A I believe that is quite likely. Williams, I think couldn't have done it on his own.

Q What was Fraser Sweatman's role in this?

A To expose Williams and to train him and develop him to the marketplace.

Q Now, you stated that of all the companies that he visited he came up with some thoughts as to possible acquisitions. However, only one of them was worthwhile following up. Is that a fair characterization of your testimony?

A I can't remember if he came up with more than one. He wasn't supposed to be coming up with any on a training trip, but he did come up with an interest from Chemetron.

Q With an interest?

A Yes, from Chemetron. I think also in his report he mentioned Forreger but you know that was about as way out.

Q That was about what?

A That was about as way out as the Chemetron possibility. He hadn't had the same number of discussions with Forreger as he had with Chemetron. In fact, I don't know even if he met anyone from Forreger. I would have to read his report.

Q Do you know how many times British Oxygen representatives visited Chemetron or Chemetron representatives visited British Oxygen with respect to a possible joint venture in 1972 and 1973?

A Well, I think Williams had three talks with the Chemetron man. I didn't know it was that many, in fact, until I learned it in the course of the trial, but in fact apparently he did have three talks. We certainly knew he had had one.

The only other visit that I then know of is the one that I made myself with Mr. Ray and with Mr. Perham.

Q Is it not true that the reason that there was not a joint venture coming into being was that both British Oxygen and Chemetron wanted 51 percent of the total?

A Not really. That was one of the reason, but neither of us particularly wanted to share our interests with medical and other what Chemetron were after we discovered, and the reason they had cultivated Williams so ~~sedulously~~ assiduously was in the hope that we would sell them half of our worldwide interests in our medical business or provide them with a market outlet.

Now, we didn't want to do that and they certainly didn't want to share their interest with anyone in medical.

Q Would you have been willing to have entered into a joint venture with Chemetron to include your worldwide medical interests and Chemetron's medical interests whereby you would obtain a 51 percent interest?

A Certainly not.

Q The testimony we have in the record now is to the effect that the difficulty which arose was, as I stated, Mr. Williams was not authorized to negotiate arrangements to be ratified by the Executive Committee in London.

A He certainly was not. He was on a training trip. He had been with the company about four weeks. He knew nothing about the busienss at all.

Q What about Mr. Ray?

A He would have been had he in fact developed those detailed discussions, and Mr. Ray in fact looked at this possibility of Chemetron and in fact he thought there might be something in it and he told me that he thought that.

Q How many times did he see Chenetron?

A I don't believe he saw them more than the once that I met them with him. I don't recall another meeting.

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Q In your testimony on Friday you made reference to an Everest and Jennings.

A Yes.

Q Do you have any idea what their sales are annually?

A No, I did have, but I have forgotten the number, but it is a number of millions of dollars.

Q Would it be likely that there could be a purchase for $2 million, $3 million?

A I have really no idea. We looked at them out of interest, but we in fact found there were a number of things that were problems there, quite apart from the question of how much they wanted for their company which I remember at the time was out of all proportion to what we regarded as their value.

A figure was mentioned over the table as the sort of order, and I can't really remember what it was, but I don't think it was two or three million dollars. I think substantially more than that.

Q Substantially more than that?

A As my recollection goes, yes.

Q Do you recall when it is that these discussions may have ensued?

A Yes. We in fact met Everest and Jennings the day before or two days before we went to Chemetron. That was one of the reasons I had come over, in order to meet Mr. Jennings actually.

Q "We" being you and Mr. Ray in early 1973?

A Yes, it would be then, I think, but Mr. Perham Parin as well.

Q Mr. Perham Parin, too. Are there any other United States firms which you did consider acquiring during the period from 1970 through 1973?

A That I did consider?

Q British Oxygen.

MR. TOPKIS: In what business, may we know?

MR. YOUNGWOOD: In any business.

MR. TOPKIS: In any business? There is no relevance to that question.

MR. YOUNGWOOD: Your Honor, if you allow me to respond, I think I can.

Mr. Smith testified what areas of priority were for British Oxygen. Those areas weren't limited to any particular field of inquiry, and it is relevant for us to determine the extent of reliability of some of the British Oxygen documents, and for that reason I am asking what some of their other areas of interest might have been.

JUDGE BARNES: All right.

THE WITNESS: Medical had a high priority throughout our group.

By Mr. Youngwood:

Q What other companies with an eye toward acquisition?

A I presume you must mean serious possibilities, and I

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think one such ----

Q With whom you had any contact.

A Well, Mr. William Moeller when he came to us had spent in fact a number of months making contact with a large number of companies with whom he was interested in forming a group on his own. Now, when he joined us I think he continued some of those discussions for a period of time afterwards, and I can't answer for those.

I think I would have to go back and check. But he was in discussions with a merchant bank about a number of small companies because he really wanted to be an entrepreneur.

Q This is prior to his time of employment with British Oxygen?

A Yes, in between leaving his previous employment and joining us. On top of that we had discussions with a very small company called MedTec, which I think has been mentioned somewhere.

Q About what are its sales?

A Oh, I should think as a guess, I would think between $500,000 and a million perhaps. It is in orthopedics and it was started a couple of years ago by two young men. We have talked with Frank Zimmer about the purchase of his European interests, but that got nowhere, and at one time he also said, Oh, well, perhaps you would be interested in Zimmer Orthopedic, which is an American Company, but just as the

European one got nowhere, the American one got nowhere.

Q What about Forreger?

A Forreger, we had a rumor from three sources that Air Products were going to sell Forreger. This was brought to my attention and I was asked if I could follow it up. I asked my colleague, John Williams, who was visiting Allentown for other reasons, if he would raise the question of continuing interest in the medical equipment business with Air Products. He did in passing conversation and they said they were still interested in continuing in the medical equipment business and the matter was dropped.

Q Are there any other companies then in which you had an interest in acquiring or gave consideration to acquiring?

A We did quite a number of screening studies and I can't remember the names. Certainly we were looking hard at the orthopedics.

Q In the United States?

A Yes. The busienss of bone joints. We looked hard at that and I can't remember how many companies we talked about, but nothing was followed through to my recollection.

I can't think of any more, Mr. Youngwood.

Q Was there any discussion as to the amount of money which would be expended for these orthopedic companies?

A We had in the back of our minds figures in the sort of low millions of dollars rather than a more substantial amount

32 In other words, if a company had come up and it was going to cost $2 million or $3 million, then that was certainly worthy of consideration. I think we would have hesitated had it be substantially more.

MR. YOUNGWOOD: We have no other questions.

MR. TOPKIS: I have just a few, Your Honor.

REDIRECT EXAMINATION

XXXXXX By Mr. Topkis:

Q Mr. Laister, since you acquired Cyprane and hence Fraser Sweatman, has there been any change in the assets, production capacity, or assembly capacity more accurately, or way of doing business of Fraser Sweatman?

A The only change is that I am afraid that a number of the management left during the hiatus period after we took them over and indeed -- I think it was Fraser Sweatman, Inc.; it might have been Canada -- the sames manager left. I think they were all a little upset by this Federal Trade Commission action and what was going to happen.

Q You testified, sir, that Harris Lake has an assembly shop total operation of around 8,000 square feet including its assembly shop, warehouse, offices, and what-have-you.

A Yes.

Q And you testified that you weren't sure of the size of Fraser Sweatman.

A That is correct.

Q Can you tell us is the Fraser Sweatman building larger or smaller?

A My understanding is that it is much smaller, but I have only passed it in a car. I have not been in it.

Q Now, Mr. Youngwood was asking you about the respect in which Airco was a unique opportunity, and I would ask you, sir, whether the size of Airco had any role in making it a unique opportunity in your eyes?

A Oh, quite clearly.

Q Explain that, please.

A Well, it has a national position in the marketplace. It is a company of substnatial assets, of management quality and content. It is a totally different possibility from that of Alabama Oxygen or something like that. It is a different ball park.

Q Did the history of relationships between Airco and BOC play any role in making you regard Airco as relatively unique?

A I am sure they did. We knew that we could work with the management. This to us is critically important in any such arrangement.

Q Did you view Chemeotron, sir, as of an equal level of desirability with Airco, equal level of uniqueness?

A Most certainly not.

Q Could you explain that to us?

A Yes. We did not believe at the times we looked at it

34 some years ago that it was anything like as well managed a company. Its record had been uncertain. It was rumored in all sorts of difficulties. We basically in-house -- that in our own house -- didn't really want part of it.

MR. YOUNSWOOD: Would you read that back, please?

(The record was read by the reporter.)

By Mr. Topkis:

Q Did its size as compared with Airco have anything to do with that?

A I suppose it must have.

Q Its product mix?

A Yes.

Q And had you had historically any relationship with Chemetron comparable to those which you had with Airco?

A Oh, no. We didn't know the Chemetron people well at all.

Q Now, you have testified that you regarded Airco as a relatively unique proposition. Let us suppose, sir, that Union Carbide were to announce that its Lindy Division were for sale, Would you have regarded that as a unique opportunity?

A Very unique, if you can have such a combination.

Q And would you have had the same view if it were to be announced that Air Products was available for take over?

A Yes, of course.

JUDGE BARNES: Could that have cuased you difficulties

35 with the British Monopolies Commission?

THE WITNESS: I don't believe so, that either of those would have caused us difficulties -- oh, the Air Products one because of its interest in the UK. I really wouldn't know the answer to that, but certainly it would have caused us a lot more discussion than the Union Carbide one.

By Mr. Topkis:

Q In any event, those would have been opportunities that you would have regarded as worthy of exploration?

A Yes, we would have.

Q You testified, I think, at one point that you heard that Forreger might be on the market.

A Yes.

Q And you said that Forreger was as way out as Chemetron. What did you mean by that?

A Well, this was from Williams' report and my reference to way out, really I meant the substance of comment that was there. I did not believe that this newly appointed man on his first trip to America in a new field could product your positive possibilities, such as Forreger wanted to be sold. I just didn't believe it.

Q By saying that it was way out, you menat that it was unlikely?

A Unlikely, yes.

Q Very well, Now, sir, there has been a lot of questioning put to you about how you have spent your time since you have been here in the United States. You have been asked whether you attended these hearings and what transcripts you read, where you live and how many times you had been to Mount Vale, and things like that.

I would put to you, sir, the question where were you on the afternoon of June 8, 1974?

A I was at the Belmont horse races.

Q Did you have a small flutter on the winner of the Belmont stakes?

A Yes. I had to back three horses to get that.

MR. TOPKIS: Having made that record, Your Honor, we have no further questions.

MR. YOUNGWOOD: Your Honor, it is very difficult to ask any questions with respect to the last series, and we have no other questions as well.

JUDGE BARNES: Thank you, Mr. Laister.

THE WITNESS: Thank you, Your Honor.

(Witness excused.)

JUDGE BARNES: Do you have any further witnesses, Mr. Topkis?

MR. TOPKIS: Well, we are on Airco's case.

MR. WOLLEN: We rest our case, Your Honor.

MR. TOPKIS: We do, too, except for this: We still have not gotten through the documents we received.

37 Indeed we got the last batch this morning and I would appreciate an interval during which we could advise Your Honor and our adversaries could advise Your Honor -- they have until Monday to advise Your Honor as to whether there will be any rebuttal.

I would appreciate an opportunity to tell Your Honor by that time, and adversaries, of course, whether we wish to put in any of those documents as part of our case.

Other than that, we rest.

JUDGE BARNES: Also the Mississippi River documents. Have you those under consideration?

MR. TOPKIS: Oh, yes. There is one document that we want to put in there, Your Honor. Thank you for reminding us.

May we mark this document as BOCRX-254?

(The document referred to was marked Respondent's XXXXXXX Exhibit BOC-254 for identification.)

MR. TOPKIS: I am holding, Your Honor, BOCRX-254, which is entitled, "Summary of Composite Average of Return on Invesmtent and Sales," and what it is is an attempt on the part of the Price Waterhouse gentleman who looked at these documents to put together the reports as reported by three companies, Union Carbide, Air Products and Northern Gases and Supplies Company, the reports of those three companies.

The accountant advised Your Honor per this document that these three companies were the only responses that were usable.

Now, we, of course, have not seen the responses. We are going solely on the basis of what these companies have reported and on the assumption of those reports that are in this document.

I realize that those facts make the document of somewhat less than totally persuasive weight. Nonetheless, for what is there I would urge Your Honor to accept and consider the document.

MR. THURMAN: We certainly object to this document, Your Honor, certainly object without the accountant being present here. The accountant has stated for Your Honor and for Mr. Topkis that there is no reliability whatsoever to this and he certainly will not say that is proper accounting procedures.

If you recall, the counsel for Linde told Your Honor, "That certainly isn't our rate of return for Linde.

I don't understand this, when Mr. Topkis has not called one third party witness. If he wants the return on investments, certainly this should be accurate in this record and all he has to do is call Linde, call Air Products, call Big Three, call anybody he pleases as a witness and get the accurate return, if that is his interest, to get in this record, not take something that is not accurate whatsoever and

39 say that should go in this record and this is the return on investment.

Certainly the least it would require is to call the accountant for his emphasis on the reliability, if any, on this document.

MR. TOPKIS: Well, the accountant has, I believe, advised Your Honor orally -- certainly he advised all of us -- these documents are of uncertain reliability by reason of the fact that we can't be sure that the companies use the same techniques to compile their responses and I don't offer it as being the final answer.

But we do know that Mr. Flamm of Union Carbide was here and testified, and when I sought to develop Union Carbide's rate of return smoke came out of his ears. He could not have been more disturbed.

So, rather than get into a protracted wraggle which would probably wind up in seven different circuit courts of appeals over that question, all I am doing is offering this document for whatever weight it may deserve, and I certainly agree that it doesn't deserve total weight, nor 75 percent weight, but it is confirmatory, and for that purpose I would suggest that it is worthy of consideration.

MR. THURMAN: Certainly the accountant has to be called to say what he put together. I certainly don't know what he put together. Certainly whether he put apples and applies together, he is not going to develop that.

MR. TOPKIS: I have not been allowed to see what he put together so I can't know about that. Complaint counsel have seen it. They have that advantage over me.

MR. THURMAN: I don't think it is apples and apples.

JUDGE BARNES: All right. I am going to receive BOCRX-254 in Camera.

XXXXXXXX (The document referred to, heretofore marked for identification as Respondent's Exhibit BOC-254, was received (in Camera) in evidence.)

MR. THURMAN: Then we are putting on rebuttal. We are going to call all the witnesses in this industry if that is going to be put in as evidence, and we will want to put in probably the rest of the Mississippi River sales.

JUDGE BARNES: Well, that is up to you. You have rebuttal coming up.

MR. THURMAN: I am just surprised, Your Honor, when they can call a company and put in the exact figures, when these lawyers told Your Honor this is not our rate of return ---

JUDGE BARNES: This is what was reported to the FTC as explained on the exhibits. I am going to receive it in the record. I have received it.

MR. TOPKIS: I may say that the Federal Trade

Commission accountants affirmed the technique of compilation.

JUDGE BARNES: Mr. Crawford is available ---

MR. THURMAN: He said it was worthless. We will bring him and call him to say that if that is what you want.

JUDGE BARNES: No, it is up to you.

Are these the only exhibits that you have now?

MR. TOPKIS: That is right, Your Honor.

JUDGE BARNES: Does complaint counsel have any other exhibits that your case-in-chief that were never offered?

MR. THURMAN: Your Honor ---

MR. TOPKIS: Your Honor, because we are not allowed to duplicate that document may we retain custody of it or may Your Honor's order of reduplication be relaxed to let us be permitted to make one copy of it?

JUDGE BARNES: Yes, you may have it.

MR. THURMAN: Your Honor, if you recall, complaint counsel offered Commission Exhibit 330-A through G. Commission Exhibit 330-A through G was received in evidence. Later in the trial it was discovered that page 6 was missing in both copies retained by complaint counsel and Your Honor instructed Mr. Hoagland to see if it was in the copy admitted in the record, if the page was missing in the exhibit received in evidence.

Mr. Hoagland checked with Legal Records and they do not have the copies of the documents or the exhibits received into evidence while this trial was taking place in New York.

The record shows that what was received was CX-330-A through G, which would indicate that a page was missing in the exhibit received in this record.

Therefore, either complaint counsel offer a complete set -- our copy does not contain signatures but the one in the record does -- or when the record comes down from New York or the exhibits come down from New York, I would like Your Honor's order to insert page 6 of that exhibit and renumber CX-330 A through H.

JUDGE BARNES: I will correct the record at any time. Why don't we wait until it comes down and you see it and even a month from now I can accept the corrected exhibit in the record.

MR. WOLLEN: That is agreeable to us.

MR. TOPKIS: And to us, Your Honor.

MR. THURMAN: Also, Your Honor, complaint counsel has repeatedly offered Commission Exhibit 305-A through Z-26, which was the red herring perspectus of Liquid Air Corporation, North America. This exhibit was rejected with objection from respondent's counsel, I believe, as to reliability, which amazes me, but I think that was the objection, and the exhibit was rejected.

Complaint counsel requests Your Honor to reconsider that exhibit and I believe Your Honor stated we should check and see if there is any other filings with the Securities and Exchange Commission. We have checked with the Securities and Exchange Commission and got a new filing dated October 29, 1973, with Securities and Exchange Commission.

Complaint counsel at this time offers CX-335-A through Z-54 for identification to be received in evidence as CX-335-A through Z-54.

(The documents referred to, heretofore marked for identification as CX-335-A through Z-54 for identification, were received in evidence.) XXXXXXXX

JUDGE BARNES: What was the date of the previous exhibit?

MR. THURMAN: The date of the previous exhibit was May 1, 1973.

JUDGE BARNES: And as usual it is not marked correctely We don't have a Z-1. My understanding is there is never just a plain Z. It is Z-1 and Z-2, but in any event, we will not hold that against you.

MR. THURMAN: I believe, Your Honor, is correct this year the new contract does not call for a Z. I think in the past it did. It was one way or the other. At one time or another it did call for Z. We certainly won't quarrel on that. We will renumber it if Your Honor desires.

MR. TOPKIS: We have the same problem, Your Honor. This is stamped on its face, "PRE-EFFECTIVE." ~~"Projected Amount."~~ This is not

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a final document. If it were, I repeat I would still have objection to it because it would be hearsay, and I just have not had an opportunity to read it. But it is still a red herring.

We took a quick look. The red herring label appears on page CX-335-M. I am afraid our friends have gone back to the drawing board again to offer it even on their theory.

This never went effective, Mr. Demster testified, as I recall it, and in consequence it was always a preliminary, non-final subject to amendment, modification, change or total withdrawal as Liquid Air might think appropriate and accurate.

MR. THURMAN: Even if it was finalized, sometimes they make copies and the red herring would be somewhere within it.

We are not arguing whether it is finalized or not and I am surprised that Mr. Topkis would raise a hearsay objection as much as he has gotten in this record. This is beyond me, if anybody could say something filed with the Securities and Exchange Commission is hearsay and should not be admitted in this record, and yet will file an offer and have received an advertisement in the Newsweek. Is that not hearsay?

MR. TOPKIS: No.

MR. THURMAN: I would be ashamed of making an objection like that as much hearsay as has been put in this record by respondent.

This is a document filed with the SEC and I will put reliability to this document more so than any news articles or any Newsweek advertisement or any such matter as that.

I am really amazed that an objection like that would be made.

JUDGE BARNES: I don't think you are all that amazed.

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JUDGE BARNES: I am going to take official notice of this document and I will receive in the record Commission Exhibit 335-A through Z-54. I will receive it on the basis of official notice.

XXXXX

(The document referred to, heretofore marked for identification as Commission Exhibit 335-A through Z-54 was received in evidence on basis of official notice.)

JUDGE BARNES: Are there any other exhibits?

MR. THURMAN: My associates tell me there may be some problem with the catalog. I am not clear myself. The catalog, I believe, the medical catalog of Ohio Products was received in evidence but I don't think it was turned over to the reporter at the time. Certainly we don't expect to get that in the record.

MR. WOLLEN: Somebody asked us for another copy of the catalog. We have asked Ohio to send us one and as soon as ce receive it, we will give it to you.

MR. THURMAN: I guess that is the answer. As soon as we get the catalog from --

JUDGE BARNES: I believe we made it a physical exhibit.

MR. THURMAN: Physical Exhibit A.

JUDGE BARNES: And it would be helpful if we could have an index sheet in front of it. I don't believe it was indexed. Could you prepare some sort of an index sheet to maybe place in the cover? Then we will know if anything later on is missing.

If you can make a general index, it would be helpful.

MR. THURMAN: Yes, we could do that.

JUDGE BARNES: Or is every page marked?

MR. THURMAN: No, Your Honor.

MR. PURCELL: Some of the information is relevant, but we couldn't agree on that, so we put the whole thing in.

MR. THURMAN: Your Honor, it is my understanding this was an incomplete catalog. We pulled out the portions of this catalog that we felt was relevant on objections at first that the whole catalog should not go in. Then AIRCO's counsel withdrew the objection that all of it could go in or should go in, so therefore this catalog is incomplete and we certainly would make a contents page when we receive a clean, up-to-date catalog from O.I. Products.

JUDGE BARNES: At that time we will turn it over to the court reporter.

MR. THURMAN: The reporter or -- it has already been received as far as the record is concerned. I think possibly we could just take it over to the official record which would be over in Legal Records.

JUDGE BARNES: I leave it in your hands to turn the exhibit in and to also give respondents a copy of whatever type of index sheet you arrive at.

MR. THURMAN: We have no more exhibits at this time, Your Honor. We can probably take a closer look at the Mississippi River documents other than the one that has been received by Your Honor if Complaint Counsel wants to offer these documents.

JUDGE BARNES: You can offer them in rebuttal if you have any rebuttal, and let me suggest that Mr. Topkis may have a few more exhibits and if the only thing you have is exhibits, exchange them, and we won't have to have a day of hearing. I can receive them by written order and make them part of the record and you don't need to call witnesses for that.

MR. TOPKIS: Fine, Your Honor.

MR. THURMAN: Well, I don't know if this is proper to discuss on the record or with Your Honor. Maybe it is something between counsel.

The other would be whether we want to put return on investment in the record and whether it would be necessary to call witnesses or just get affidavits from the company.

JUDGE BARNES: Talk it over with Mr. Topkis. Let me know by Monday.

MR. THURMAN: I would think if the company submitted something voluntarily to the Commission, not under subpoena, and this was reviewed and received in evidence, that any other submission from here to the close of this record by third parties would be received in evidence.

MR. TOPKIS: I can't say I understand that, Your Honor. I asked for all of these documents. Your Honor ordered that I be given them. The Commission then modified your order to direct Your Honor to exercise your discretion to decide which documents should be given Mississippi River treatment. Your Honor did that. I have now offered one document based on Mississippi River treatment. I scarcely see how that does anything but act as a directive that there be no individual company-by-company inquiry on this subject.

MR. THURMAN: Maybe I did not make myself clear. What I was trying to say and will repeat that something received by the Commission or Commission staff not under subpoena, where it would be under sworn statement or required under subpeona, but some document in another investigation completely foreign to this investigation and this proceeding is turned over to respondent's counsel by order and then they chose and picked what they want to put in the record and this was received without a witness going on the stand.

Then I think the analogy to that would be that if we went out to the company under subpoena and received the actual and reliable return on investment or return on sales or whatever comparable to what just went in this record, it would be my idea that this would be receivable into evidence without calling a witness.

It would certainly be as much reliability and probably more --

JUDGE BARNES: I believe we received quite a few sales figures in this record without calling a witness.

MR. THURMAN: Under stipulation.

JUDGE BARNES: Certainly.

MR. THURMAN: Oh, I mean without a stipulation. We certainly didn't stipulate that this was a reliable figure. I am talking about the return on investment that just went in. I am trying to determine, Your Honor, where we have to call witnesses to get a true return on investment in this record. I would think if this went in not submitted under subpoena, we know definite reliability on it. Then if something was submitted to us under subpoena that we would subpoena now --

JUDGE BARNES: You are asking me to rule for a quid pro quo here. I am not going to do it.

MR. THURMAN: I think our quid would outweigh the quo that just went in.

JUDGE BARNES: I am not going to make that ruling, but if you decide you want to go for rebuttal and you want subponeas, you know where my office is, and if you can work it out by stipulation or what have you, fine.

MR. THURMAN: I was trying to save calling witnesses to come in when this got in without a witness, so therefore a comparable quid pro quo would put the remainder in and I eea-6

thought maybe Your Honor might rule at the time that this would go in.

JUDGE BARNES: No such ruling. So we have nothing now until rebuttal; is that correct?

MR. TOPKIS: We will be in touch with Your Honor on Monday, Mr. Thurman to tell Your Honor whether there is to be any rebuttal, we to tell Your Honor whether we want to offer any more of these documents to be received.

JUDGE BARNES: And I believe I set next Wednesday for rebuttal witnesses, did I not? The 26th?

MR. THURMAN: Yes, Your Honor.

JUDGE BARNES: If there is nothing else, we will adjourn at this time.

(Whereupon at 3:30 p.m., the hearing adjourned, to reconvene Wednesday, June 26, 1974.)

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BEFORE THE

FEDERAL TRADE COMMISSION

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IN THE MATTER

of

BRITISH OXYGEN COMPANY, LTD.,
BOC FINANCIAL CORPORATION,
BOC HOLDINGS, LTD.,
BRITISH OXYGEN INVESTMENTS, LTD.,
AIRCO, INC.

Docket No. 8955

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Room 7314 - 1101 Building
11th and Pennsylvania Avenue,NW
Washington, D.C.
Thursday, June 27, 1974

Met, pursuant to recess, at 10:00 a.m.

BEFORE:

ERNEST G. BARNES, Presiding Administrative Law Judge

APPEARANCES:

K KEITH THURMAN, GORDON YOUNGWOOD, DON PURCELL, DARYL NICKEL, RHETT KRULLA and JOHN HOAGLUND, on behalf of the Federal Trade Commission.

JAY H. TOPKIS, LEWIS A. KAPLAN and MOSES SILVERMAN, Paul, Weiss, Rifkind, Wharton and Garrison, 345 Park Avenue, New York, New York 10022, on behalf of Respondent, British Oxygen Company, Ltd.

R. WOLLEN and DANFORTH NEWCOMB, Shearman and Sterling, 53 Wall Street, New York, New York 10005, on behalf of Respondent, AIRCO, Inc.; and

PROCEEDINGS

JUDGE BARNES: All right. We are ready to start with complaint counsel's rebuttal case. There may be a few other matters we should take up first.

MR. TOPKIS: Your Honor, if you want to consider it at this time, you will recall that your Honor received a red herring prospectus of Liquid Air Corporation as, I believe, complaint counsel Exhibit 335. We checked with the Securities and Exchange Commission, and has ascertained that in fact that document was withdrawn by Liquid Air Corporation. We have supplied complaint counsel a copy of what we would now offer as BOC Respondent's Exhibit 255, which I tender to your Honor.

(BOC Respondent's Exhibit RX-255 was received in evidence.)

JUDGE BARNES: All right. Any objections to this exhibit, Mr. Thurman?

MR. THURMAN: Yes, your Honor. Mr. Topkis, I believe, is in error. The prospectus referred to here was not admitted in this record. Therefore, this does not pertain to anything in this record, and certainly should not be admitted.

JUDGE BARNES: I thought we had received that exhibit at our last hearing.

MR. TOPKIS: That is right. We received a later prospectus filed at the end of the year for this was in March, the one that was rejected.

MR. THURMAN: I said originally filed, your Honor. These things have a way of getting amended. And I don't know of any other. It is the same registration number, it is the same document.

JUDGE BARNES: Well, in any event, I am going to receive RX 2 ---

MR. THURMAN: Our objection is we don't have a specification for it. They talk about adverse market conditions. We should ask somebody, assume they are talking about stockmarkets. it is not proper to make at this time, If your Honor is going to take that inference they are talking about the stockmarket rather than industrial gases market, why we have no objection.

JUDGE BARNES: Well, I will receive the exhibit and I will have to draw my own inferences if no other term is given as to what adverse market conditions mean. So, I will receive RX 255 in evidence.

MR. THURMAN: Would your Honor receive the prospectus filed with this which was put in the rejected exhibit file? Mr. Topkis is absolutely in error. There are two registrations and this pertains to the first one that was rejected. So, if this goes in, complaint counsel submit that one that this pertains to has to go in the record, to have any meaning whatsoever. You are cancelling something that is not in the record.

JUDGE BARNES: When I write my initial decision, I may well accept the rejected exhibit into evidence. I will look at both of them; they are in the record.

MR. TOPKIS: That is all we have, your Honor.

JUDGE BARNES: All right. You said there might have been some other exhibits that you would offer from the group that were turned over to you.

MR. TOPKIS: Yes, your Honor. We have at this point none to turn over.

JUDGE BARNES: All right.

Mr. Thurman, there was a medical products booklet that we never did receive. Is that ready to file?

MR. WOLLEN: We have an up-to-date version of the Ohio catalog for complaint counsel.

JUDGE BARNES: Catalog?

MR. THURMAN: We have not seen this but I assume it is their catalog. There seems to be some question, your Honor, whether this was received in evidence as Commission Exhibit Physical A, I believe it was. I am told by respondent's counsel they don't believe it was actually received. Possibly the reporter did not get it down. But for the record, I assume this was received and is received as Commission Physical Exhibit A.

JUDGE BARNES: All right. I will receive this in evidence, if it has not already been received, complaint counsel Physical Exhibit A, which is a catalog for Ohio

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Medical products.

I ask you that you prepare an index or is there an index in the front of the catalogue?

MR. WOLLEN: I do not believe there is now, Your Honor.

MR. THURMAN: Yes, we were asking for an index but we just got the catalogue. You are seeing it at the same time I am seeing it. We will take it and prepare an index if Your Honor desires.

JUDGE BARNES: Otherwise, we would never know if a page were missing.

MR. THURMAN: All right.

JUDGE BARNES: So, I will ask that you prepare an index and submit it to me at a later date.

All right, anything else to take up?

MR. TOPKIS: No, Your Honor.

JUDGE BARNES: Are you ready to proceed, Mr. Thurman?

MR. THURMAN: Yes, Your Honor.

Complaint Counsel calls Mr. Dexter Baker.

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DEXTER FARRINGTON BAKER was thereupon recalled as a witness for the Commission and having been previously duly sworn, testified as follows:

XXXXXX REBUTTAL DIRECT EXAMINATION

THE WITNESS: Good morning.

JUDGE BARNES: Good morning, Mr. Baker.

I believe you testified before in this proceeding.

THE WITNESS: Yes, sir, I did.

JUDGE BARNES: All right, you were sworn in before, and you are still under oath.

THE WITNESS: Yes, sir. Thank you.

By Mr. Thurman:

Q Mr. Baker, you testified in this trial on May 7, 1974, is that correct?

A I believe that is the date.

Q Mr. Baker, is Air Products participating in the Canadian market?

A Yes.

Q And when did they enter this market?

MR. TOPKIS: Your Honor, please, this was all covered, I believe, on Mr. Baker's direct testimony. There was extensive testimony about marketing across the border into fringe areas of Canada and so on.

It has all been gone in to. And I may say, Your

Honor, that from what we have been told by Complaint Counsel about why they brought Mr. Baker here, it has left us in a state of some confusion because they told us that Mr. Baker would be asked to testify about three subjects as to which he has already testified; namely, the Canadian situation, Air Products' entry into the United Kingdom and the state of the market today in the United States.

And on all of those subjects, Mr. Baker has testified extensively and quite interestingly but I do not see any reason for repetition of it.

JUDGE BARNES: I do not see any reason for repetition, Mr. Thurman. Do you have anything new?

MR. THURMAN: I do not see any repetition. But if Mr. Topkis would refresh his memory, Mr. Baker testified on direct examination.

He put on defense, what he called a defense. This is to rebut the defense and in his defense, they were saying this Canadian market is immature and a better market than the United States market and that you could not enter either the United States market from the Canadian market or vice versa.

So, certainly, it is relevant. It is certainly relevant on rebuttal.

JUDGE BARNES: All right, I am going to let you proceed but let's don't duplicate anything that is already in the record. I do not have Mr. Baker's testimony here before me so be careful.

MR. THURMAN: I have very few questions on the Canadian market.

JUDGE BARNES: All right, you may proceed.

By Mr. Thurman:

Q Basically, I would like to know when they entered.

A Well, I can't give you an exact date. It was approximately two years ago as an active supplier of gases.

Q And how did Air Products enter the Canadian market?

A Well, we sent some people from the United States to Canada to start making sales calls on prospective accounts. We were successful in signing a number of accounts and, then, we responded to those supply agreements by shipping product from our Northern United States plants into Canada to serve those accounts, establish a sales office, a dock for holding supplies in readiness for customer requirements.

And, then, we recently announced the intention to build a filling facility where we would take products produced in the United States and convert them into cylinder size products for the Canadian market.

MR. TOPKIS: If Your Honor please, just to suggest to you the degree with which this is precisely duplicated, may I show you the identical testimony at page 398 of the record?

(He handed it to Judge Barnes.)

JUDGE BARNES: All right.

MR. TOPKIS: There was testimony also about the duty that has to be paid and Mr. Baker says they are willing to pick up the duty as means of entering the market, and so on. We had all this.

MR. THURMAN: If Mr. Topkis does not want any background questions, I will go directly to the question I want to ask him, just to show market penetration to enter a market is small, that is the way you enter a market and build up.

You do not take a commanding position in a market, especially in the United States, or you are violating the law.

JUDGE BARNES: All right, go ahead. Proceed.

By Mr. Thurman:

Q So what firms are participating in the Canadian market?

A Well, major firms are, Canadian Liquid Air, the Union Carbide Corporation of Canada, Liquid Carbonic of Canada; Canadian Oxygen, Air Products; these are principal firms.

There are a small number, or a large number of smaller distributors that serve local markets.

Q And the firms are in that order?

A As far as size and share of the market?

Q Yes.

A Yes.

Q And is Cannox a significant competitor in this market?

MR. TOPKIS: Is this a Canadian Papercraft?

JUDGE BARNES: I will let you answer the question to that.

THE WITNESS: Yes, we would consider them to be a significant factor in the market. They are smaller than the other three firms.

By Mr. Thurman:

Q Approximately what share of the Canadian market does Air Products hold?

A Well, I would guess one percent or less.

Q Does Air Products intend to expand that penetration?

A Hopefully, yes.

Q Mr. Baker, what is the condition of the United States industrial gases market today in comparison with 1972?

A Well, it is ---

MR. TOPKIS: Wait just a second, Your Honor.

Again, we had the question last time, please, Mr. Baker, compare 1970 and 1973. Are we now by way of rebuttal or redirect, are we going to have a comparison between 1972 and 1974?

I cannot imagine how that is proper rebuttal or whatever that we are supposed to be doing now.

JUDGE BARNES: Isn't 1973 the relevant year, Mr. Thurman?

MR. THURMAN: 1973 -- 1972 is relevant and we would not think that 1970 or 1967 or 1965 or 1963 or 1954, which Mr.

Topkis thought relevant enough to put in his defense, what the market conditions were then, is immaterial to what the market conditions were at the time of entry, or shortly thereafter.

And what we intend to show through this witness is that even since the acquisition, this market is firmed up even more and that BOC did not have to enter with Airco and could enter -- the conditions today are such that BOC could enter either through grass roots or small acquisition, expanded that acquisition into a significant competitor.

JUDGE BARNES: All right, I will let you answer that question, what is the difference between the market today and in 1972?

THE WITNESS: Well, the market today is quite buoyant. The demand is very high. There is a limitation on supplies available to meet all customer requirements. There are firm inquiries that the industry has received for the construction of a substantial number of new plants to supply customers' oxygen requirements by pipeline.

I would say the market is very buoyant, is the best description I could give.

JUDGE BARNES: Is this a change from November or December of 1973?

THE WITNESS: Yes. Quite a significant change. The demand that we are faced with today, as far as the requirement to build large size tonnage oxygen plants, in part, necessitated by the change in the energy balance and energy costs that we are experiencing in this country, has required a number of firms to require tonnage oxygen on a very large scale.

JUDGE BARNES: Could you give me a little more detail as to why there has been a big difference in the six-months period?

THE WITNESS: Well, the elevated price of oil has prompted the consideration of producing gas for pipeline transmission by the combustion of coal with oxygen and this has led to the requirement for some very large oxygen plants to be built over the next several years. That is one example.

JUDGE BARNES: For public utilities?

THE WITNESS: For pipeline distribution, yes.

JUDGE BARNES: To public utilities?

THE WITNESS: Yes. Also, the scarcity of natural gas which has now prompted the chemical industry to look to alternative feedstocks as a means of generating the basic chemical feedstocks for a number of chemical products.

And so, they are now looking and have firm requirements for gasifying heavy residual oils which contain sulphur and thereby are not generally useful in the power generation as a feedstock for chemical manufacture and supply of the shortage of fertilizer and methynol that exists in this country today.

And that also involves very large oxygen plants. And so, the chemical industry has become very prominent in their requirements for oxygen supply systems.

The steel industry, the third major category, is finding the price of scrap to be so expensive that they now are looking for ways to intensify the production of liquid hot metal as an alternative to high-price scrap and are considering putting in oxygen into their blast furnaces and generating more of their steel by use of liquid pig metal rather than a melting of scrap because of its cost.

These are the three principal items, coupled with a very high level of economic activity that exists in the United States.

JUDGE BARNES: Thank you.

By Mr. Thurman:

Q Which industrial gases market in the world is most dynamic at this time, Mr. Baker?

A I would have to say the United States is by far the most dynamic, has the largest number of new business opportunities.

We operate in many industrial markets throught the world and certainly, the opportunities to respond, or investment in the United States, far exceed practically all these other markets combined.

Q And what is Air Products' growth rate in the United

States, or expected growth rate?

MR. TOPKIS: What does that mean?

THE WITNESS: I am not sure.

By Mr. Thurman:

Q What percentage does Air Products expect to grow in this market?

A In the industrial gas market?

Q Yes.

A In terms of volume of shipment?

Q Volume, yes, of shipments.

A Over what period of time?

Q Presently, or over the next five years.

A Well, we have made predictions that the domestic industrial gas market should have a minimum growth rate of approximately eight to 10 percent over this period of time, in the future.

JUDGE BARNES: Is that a compounded per-year rate?

THE WITNESS: That is a compounded rate and it is somewhat -- well, it is really significantly less than we have experienced over the last two years and I think in doing forward forecasts, we are trying to be a bit conservative.

We have seen a much higher rate of growth over the last two years than I am now ---

By Mr. Thurman:

Q What was Air Products' growth rate over the past two years?

MR. TOPKIS: What does that mean?

MR. THURMAN: If you are going to object, object.

MR. TOPKIS: I am doing my best.

JUDGE BARNES: Do we have an Air Products annual report in the record?

MR. TOPKIS: We have their sales of which their annual reports will only reveal their total sales, which do not break out industrial gases.

If the witness is being asked for industrial gas sales or shipments, we already have testimony on that in the record.

JUDGE BARNES: If that is true, 1972 and 1973, Mr. Thurman ---

MR. TOPKIS: Certainly, this is not responsive to anything that we put in as part of our case.

MR. THURMAN: You know, Your Honor, I do not understand Mr. Topkis ---

JUDGE BARNES: Do you have 1972 and 1973 industrial gas sales in the record for Air Products?

MR. THURMAN: We have 1972 industrial gas sales for Air Products in the record.

JUDGE BARNES: And 1973?

MR. THURMAN: I do not believe we have 1973. We have taken the shipments as far as 1972. But Mr. Topkis has very short memory because we are saying that this is a mature market, you know, the growth was not here.

Certainly, like from getting this witness 1972 and 1973, the percentage of demand, the growth and demand from this gentleman's company.

JUDGE BARNES: If you don't have 1973 figures in the record, I will permit the witness to answer the question as to what his growth was in 1973 over 1972. And this is in dollar sales or volume shipments, what is it?

MR. THURMAN: I would like to know as far as demand is concerned.

MR. TOPKIS: What in the name of Heaven is that?

I object. I do not ---

THE WITNESS: I would have volume information, Your Honor.

MR. THURMAN: If he has volume information.

MR. TOPKIS: So far as volume information is concerned, we have a certain kind of figure in the record; namely, that reported to the Census for 1972.

If the witness is being asked for the same information as reported to the Census for 1973, I would like to see the report to the Census so that we may make the proper comparison.

JUDGE BARNES: What kind of 1972 figures do we have in the record?

MR. THURMAN: We have 1972 figures in the record of what was reported to Census in 1972. And we have no problems with this.

But, Your Honor, I do not see why when defense put in that this was a mature market and the opportunities were not there, that we cannot show through this witness that the opportunities are there and it has been there, 1972 and 1973, and he has already testified what it has been like in 1974.

And certainly, I see no reason why this witness cannot testify to this.

JUDGE BARNES: What is your question now? Ask your question.

MR. THURMAN: What has been their growth rate since 1972, or the last two years for Air Products?

He said, the witness, if you will recall, testified it is what, eight to 10 percent?

JUDGE BARNES: Projected.

THE WITNESS: That is projected.

MR. THURMAN: And it was higher in 1972 than the last two years, so the simple question, what was approximately the growth rate in the last two years?

JUDGE BARNES: What was it in the last two years?

THE WITNESS: Our growth in volume shipments, and our fiscal year begins October 1, so we tend to collect data on that basis.

To compare the two-year period from October, let's see, May of 1972 to May of 1974, our volume shipments today are approximately 50 percent higher for merchant gases and 25 percent higher for pipeline gases during that period of time.

By Mr. Thurman:

Q And what has happened to prices in the last two years?

A Prices have gradually firmed up, because the industry's practice back in the early 1970s was they had excess capacity and they were using a kind of a marginal pricing philosophy to try to meet the very intensive demands.

As the demand firmed up, marginal costing and marginal pricing disappeared and full costing and full pricing became the standard. And so, prices have firmed during that period of time.

Q Mr. Baker, can Air Products meet the firm demand from its present customers?

MR. TOPKIS: What does that mean?

JUDGE BARNES: I think the question is clear.

Did you meet the demand?

THE WITNESS: We have inquiries for on-site, what we call on-site tonnage oxygen plants which are approximately two and one-half times the total capacity that we have installed.

And we do not believe, even by importing plants from our factories in Britain, that we can meet our customer requirements within the time period that they are asking us to do so.

This change in energy balance and economics has had a dramatic effect upon the requirements for tonnage oxygen on the industry.

By Mr. Thurman:

Q Naturally, if you cannot meet your present customers' demand, you cannot meet new customers' demand, is that correct?

A Well, we have to be very selective on which individual account we are going to respond to and we will not be able to supply to all of the customers who are inquiring of us.

Q Can ammonia still be used economically as a feedstock for nitrogen?

MR. TOPKIS: Can ammonia be used as a feedstock for nitrogen? Has that ever been done?

THE WITNESS: Yes.

MR. TOPKIS: Okay.

THE WITNESS: It has been a practice in the metallurgical industry to disassociate ammonia by cracking it into its constituents of hydrogen and nitrogen. And there was a widely adopted technique for providing an annealing atmosphere for metallurgical purposes.

But the high demand for fertilizers has changed the price factor for ammonia from about, oh, $20 a ton, in the late 1960s and early 1970s to today where prices are close to $200 a ton.

So, it has become quite ~~economic~~ uneconomic and, of course, the scarcity of natural gas which is the basic feedstock for ammonia, makes the probability of ammonia prices ever again being used for inert gas applications very remote.

And so, that market is one of the contributing factors for the high growth rate and demand for atmospheric-produced nitrogen produced by air separation techniques.

By Mr. Thurman:

Q In your business judgement, can the United States industrial gases companies meet the demand in the foreseeable future?

JUDGE BARNES: For what?

THE WITNESS: For new installations?

MR. THURMAN: Yes, for additional demand.

MR. TOPKIS: I object.

MR. THURMAN: Can these customers meet the additional demand in these industries, that has taken place?

MR. TOPKIS: That is Papercraft prognosis, I now believe. If this witness were called on to testify, have you refused an order, that would come close to being a fact, indeed, it would be a fact.

But to ask him, are other companies going in the future to refuse orders, that is not asking for a fact, that is asking for the wildest kind of speculation.

JUDGE BARNES: I think he has testified about his own company, Mr. Thurman.

MR. THURMAN: Your Honor, I can testify like Mr. Topkis is doing. He certainly is in this industry. We have a so-called expert testify that this shortage would last through 1974, Dr. Kridl, through 1974, maybe into 1974, but that the demand was going to cease there, be over capacity in as short a time as early 1975.

This is absolutely nonsense. So, I want to get from this witness, a person in the industry that knows the industry, rather than some so-called expert sitting out there in California, that in Complaint Counsel's opinion, did not establish his expertise in ---- the industrial gases industry.

JUDGE BARNES: Let's ask Mr. Baker a foundation question if he has it, I believe, and, then, ask him what it is.

MR. THURMAN: Yes.

By Mr. Thurman:

Q Mr. Baker, do you have an opinion as to demand of the market and whether it can be supplied in the foreseeable future by United States industrial gases companies?

MR. TOPKIS: Is this industrial gases across the board, atmospheric gases, merchant supply, tonnage supply, or the whole ball of wax?

JUDGE BARNES: I think he said industrial gases.

Do you have an opinion as to the ability of present United States industry to meet the foreseeable demand in industrial gases?

THE WITNESS: Well, certainly there are some products where it can, Your Honor. But the principal products, tonnage oxygen, the engineering and manufacturing capacity of the United States industry,in my judgement, is insufficient to respond to the large number of firm inquiries that the industry is faced with today as far as building plants.

MR. TOPKIS: You know, Your Honor, I must object to this whole like of testimony. This is testimony that is utterly incapable of being cross-examined. We are having a witness testify about inquiries. That is what is called classically hearsay.

If he had a proposed order from somebody that he had rejected ----

JUDGE BARNES: You may ask him that on cross-examination, has he rejected an order, how many did he reject, when did he start rejecting.

MR. TOPKIS: How about asking him to bring the orders in and show them to us? That would be the beginning of fact.

JUDGE BARNES: I do not think that is necessary and particularly if Dr. Kridl testified as Mr. Thurman stated.

MR. TOPKIS: I do not know that, either.

JUDGE BARNES: I do not either but if Dr. Kridl is capable of testifying, I am sure Mr. Baker can.

MR. TOPKIS: Yes but this witness received a subpoena, I believe. Is that correct, sir?

THE WITNESS: That is right, I have a subpoena.

MR. TOPKIS: Yes and he has not produced the documents. He is here to testify instead. So I do not have the documents that would verify and permit me to cross-examine and otherwise inquire into this testimony.

I am not attacking the witness, I am attacking the use that is attempted to be made of his testimony.

MR. THURMAN: Mr. ---

MR. TOPKIS: This is just no way to proceed to establish a fact.

MR. THURMAN: I am glad to hear Mr. Topkis say that, because every time we objected to hearsay on his defense, he never heard of the word. Now he is saying he cannot cross-examine properly.

Mr. BAker received a subpoena ad testificanda.

MR. TOPKIS: May we see the subpoena? May we see the subpoena?

I am addressing the question to Your Honor.

JUDGE BARNES: Just a moment.

Mr. Baker received an ad testificandum; ~~the Airco~~ Air Products received duces tecum ~~subpoena~~ subpoenas.

JUDGE BARNES: Which Complaint Counsel has withdrawn.

MR. THURMAN: Yes, we withdraw that.

MR. TOPKIS: That is what we call the right hand doesn't know what the left hand is doing and the mastermind is trying to withhold evidence.

JUDGE BARNES: I do not think he is trying to withhold evidence and I am going to permit you to proceed with your examination, Mr. Thurman.

MR. TOPKIS: Your Honor, before Mr. Thurman does so, may I request that we be supplied copies of the two subpoenaes whether or not withdrawn, so that I may make my record here?

JUDGE BARNES: All right, Mr. Thurman, may I see copies of those subpoenaes and I will determine whether or not to turn them over?

MR. THURMAN: I do not have them with me. They are no part in this case.

JUDGE BARNES: All right, we will take a five-minute recess and I will go find my copies.

XXXXXX

(A brief recess was taken.)

JUDGE BARNES: All right, I have copies of three subpoenaes here in my hands.

One is to Dexter Baker, Executive Vice President of Air Products, Inc., and it is an ad testificandum subpoena.

I have two other subpoenaes duces tecum. One is addressed to John A. Mountain, Comptroller, Air Products, Inc. The second was addressed to Marshall Sullivan, Assistant to Controller, Industrial Gas Division, Air Products and Chemical Inc.

The specifications are identical on the latter two subpoenaes. So, I am going to make available to Mr. Topkis a copy of the subpoena addressed to Mr. Mountain, which is identical to the one that is addressed to Mr. Sullivan.

MR. TOPKIS: Could we know the dates?

JUDGE BARNES: The date is on there. It is June 20, 1974.

MR. TOPKIS: And the same is true of the other gentleman, Your Honor?

JUDGE BARNES: That is the date I signed them and they were both returnable on the 27th of June.

MR. TOPKIS: Yes, thank you, Your Honor.

MR. THURMAN: Your Honor, may I state concerning these subpoenaes, the subpoenaes duces tecum have no relevancy whatsoever to Mr. Baker's testimony. Those subpoenaes were issued when, at a late date on the fence, in a Mississippi River document, relating to rates of return on investment.

We were seeking from those two subpoenaes to try to put some reliability on to what an actual rate of return on investment was. This was very sensitive with companies, as Your Honor has heard, throughout this trial.

And I do not believe that this kind of information should be turned over to even Respondents' Counsel. So, therefore, rather than pursue this very sensitive information, Complaint Counsel decided to withdraw those two subpoenaes duces tecum and not pursue that line. We will stand on that.

The document was put in on its face. Whether it is of any value or not, I think is for argument.

JUDGE BARNES: You may proceed.

Proceed with your examination.

By Mr. Thurman:

Q Mr. Baker, are you familiar with the Brazilian industrial gases market?

A Yes, sir.

Q And how are you familiar with that market?

A We are in the course of constructing a large liquid oxygen, liquid nitrogen gases plant in Sao Paulo, Brazil.

Q What was the size of the Air Products plant?

A This particular plant will be about 300 tons a day of liquifaction capability.

Q How does the Brazilian market compare with the United States industrial gases market in size?

MR. TOPKIS: In what respect?

THE WITNESS: It is very much smaller in total size although its rate of growth at the present time would be very comparable to the United States.

By Mr. Thurman:

Q Do you know if BOC is participating in the Brazilian market?

A Yes, I believe they have a joint venture with a Brazilian group and are planning to engage in the industrial gas market.

Q Does BOC have a plant in the Brazilian market?

A I believe they have imported a plant into Brazil, yes.

Q Imported? Do you know the size of that plant?

A I believe it is 50 tons a day.

Q I understand from your testimony that Air Products and BOC have entered the industrial gases market on grass roots basis, is that correct?

A Yes, sir.

MR. TOPKIS: I do not understand that. I thought the testimony was that BOC had entered into a joint venture with some Brazilian companies.

JUDGE BARNES: That is correct.

MR. TOPKIS: If that is what the term joint venture means to Complaint Counsel, that is all right with me.

MR. THURMAN: Your Honor, if Mr. Topkis has objection, he should object. The witness already answered the question.

JUDGE BARNES: I think the question is improperly phrased though. You have come to the term "from grass roots."

MR. THURMAN: I asked him did they enter on grass roots basis.

grass roots means.

By Mr. Thurman:

Q Do you understand what grass roots basis is, Mr. Baker?

MR. TOPKIS: How about asking the witness his understanding and, then, we can go on, understandably.

JUDGE BARNES: I think this question is designed to do that.

What is your understanding of the term grass roots?

THE WITNESS: Well, the term as used in our industry is one where you enter the market from scratch without acquiring any share of that market from an established producer.

And this is the term grass roots, meaning a complete green field, new venture, rather than acquiring a going business engaged in that industry.

JUDGE BARNES: All right.

Is your understanding of the way BOC entered the Brazilian market a grass roots entry?

THE WITNESS: Yes, they have a partner assisting them, doing this jointly, but that doesn't change the basic approach.

By Mr. Thurman:

Q Could companies enter the industrial gases market on grass roots basis? Could companies enter the United States industrial gases market on grass roots basis?

MR. TOPKIS: How about the Moon on a grass roots basis? Your Honor, that is an argumentative question. That is my first objection. I do not think I need to go further.

MR. THURMAN: It is not argumentative. It is a business judgement, certainly, a comparison here, his comparison. This is a dynamic market and growth rate is practically the same.

You know, through the fence, they have argued that you could not come in the United States market and that is what we are showing, you could and here is a man that knows.

JUDGE BARNES: Ask him if, in his opinion.

MR. THURMAN: Yes, if, in his opinion.

JUDGE BARNES: Can a company enter the United States market on a grass roots basis?

THE WITNESS: Yes, Your Honor.

JUDGE BARNES: What would it require to enter?

THE WITNESS: It would require building a plant of competitive size in an area where the prospects for selling that plant were reasonable. That is one technique.

Another technique would be to bid for a large tonnage oxygen requirement of the type that I alluded to earlier, and to add extra capacity to such a plant to serve the local market from such a facility.

JUDGE BARNES: I would like to know what capabilities would the company have to have, then?

THE WITNESS: Well, it would need to have expertise in the design and manufacture of an air separation plant. It would have to have the capital resources, obviously to invest in such a facility. And it would have to have distribution and marketing and technical services capability of serving those customers.

And if it was going to supply a major customer, it would probably have to have a demonstrated performance capability in serving similar customers from like plants in at least similar market circumstances.

By Mr. Thurman:

Q In your business judgement or opinion, would this be an opportune time for a company to enter the United States industrial gases market even the grass roots?

A Yes, sir.

Q If the company could enter grass roots, it also could enter by acquiring a small company and expanding that company?

A Yes, sir.

MR. TOPKIS: Your Honor, isn't that rather argumentative?

JUDGE BARNES: We have heard a lot of this on both case-in-chief and on defense, too.

MR. TOPKIS: I do not think, Your Honor, I ever asked a question which began, if a company could do such-and-such, could it do such-and-such. If I did, I would have moved myself, to strike it.

JUDGE BARNES: The question was a little poorly phrased.

MR. THURMAN: Wouldn't it be nice if Mr. Topkis could handle both sides?

MR. TOPKIS: I think it probably would.

(Laughter.)

MR. TOPKIS: A lot faster.

By Mr. Thurman:

Q In your opinion, could BOC compete for on-site constracts?

A Yes, sir.

Q Mr. BAker, there is testimony in this record that when Air Products entered the United Kingdom, the industrial gases market in the United Kingdom, that the United Kingdom Government assisted or encouraged Air Products' entry, is this correct?

MR. TOPKIS: I would like to see a reference to that testimony, Your Honor. I recall no such.

MR. THURMAN: I do not know where. I thought that Mr. Topkis was present during defense but ---

MR. TOPKIS: I happen to have been. I repeat my question. All I need is a page, not an argument.

MR. THURMAN: Mr. Smith testified to this.

MR. TOPKIS: I would like a page.

MR. THURMAN: And I believe Mr. Laister testified to this. And they have a monopoly and the Monopoly's Commission, or the Government, encouraged and helped Air Products come in this market.

It is certainly of record. We can take time out to locate it, if you want.

JUDGE BARNES: We don't have to locate it. You can ask Mr. Baker if the Government did.

MR. TOPKIS: I would have no objection to that.

MR. THURMAN: I asked him if they did and what is the help.

JUDGE BARNES: Ask him first if they did.

MR. THURMAN: I said, is this correct, or did the Government encourage or assist Air Products in entering the U. K. industrial gases market.

THE WITNESS: Precisely, the did not assist Air Products. If I can clarify the point, the Monopoly's Commission ruled and established certain rules of competitive conduct by the British Oxygen Company, as a result of their hearings, which would make it possible for any company to enter the U. K. market without having the market restricted to such an entrance.

We received no direct support by the British Government or anybody else to enter that market. But the British Oxygen was restrained from preventing us from entering the market by signing long-term contracts with all of the industry and thereby precluding our participation.

By Mr. Thurman:

Q Did BOC have a plant, on-site plant, in the United Kingdom at the time or shortly thereafter Air products' entry?

A British Oxygen had built some tonnage oxygen plants for serving the steel industry in the mid-1950s, I would guess 1955, 1956, sometime around that period of time. And those plants were either in the course of construction or started up shortly after we entered the market in 1957.

Q Would it be any more difficult today to enter the United States industrial gases market than it was to enter the United Kingdom industrial gases market at the time of Air Products' entry?

MR. TOPKIS: For whom?

By Mr. Thurman:

Q For any company that is willing to enter, any industrial gases market, such as Air Products not participating in that market, participating in another market; such as BOC entering the United States market?

A In my judgement, no.

Q If Air Products would lose a contract with a customer, an on-site contract, what would happen to that plant?

MR. TOPKIS: Excuse me. May I have that question read, please, Your Honor?

JUDGE BARNES: Read the question back.

XXXXX (The pending question was read by the Reporter.)

MR. TOPKIS: Instead of speculation and hypotheticals, could we have a question about an actual fact? That is the best way to get meaningful testimony, I respectfully suggest.

If Air Products has lost a tonnage contract, let's hear about that experience.

JUDGE BARNES: I would like to know if they have, and I would also like to know if their contracts cover such a contingency.

THE WITNESS: Yes, we have different types of contracts with different customers, of course, of different lengths and different commercial terms.

The pattern, the general pattern, really, revolves around, really, two prime cases; contracts of five-year durations where the plants are physically of such size that they can be relocated to another site, in practical terms; or contracts of 15 years' duration, where the plants normally, in today's size of such plants, cannot be relocated.

And the difference for the time in those contracts is because of the relocateability of the plants. You can afford to take a shorter length contract if you can re-employ that investment at some different location.

Like a computer can be taken out of an office building and put over there. But a very large plant, running for 15 years' duration, normally cannot be disassembled and reassembled because of the size and cost and economic consequences. And so, those contracts run for 15 years' duration.

And we have had contracts with steel companies and chemical companies, where our contracts at the expiration of those six time periods were not renewed. And in the five-year contract cases, those plants were relocated and re-employed at another similar customer.

In the 15-year cases, the plants were either turned over to the particular customer, or were disassembled and sold either for scrap or to the export market.

By Mr. Thurman:

Q Approximately how many on-site plants or tonnage plants, does Air Products have that have incremental capacity?

MR. TOPKIS: That is incremental over a tonnage commitment?

THE WITNESS: Yes, yes.

MR. TOPKIS: Okay.

By Mr. Thurman:

Q Percent?

A I would estimate, oh, some 20 to 25 plants have such features and they would represent approximately 75 percent of our installations of that nature.

Q Where does this incremental capacity go, where is it marketed?

A Well, normally, it is liquified and distributed to what we call the merchant market for liquid gases, liquid atmospheric gases and cylinder gas products, in the vicinity of that tonnage plant installation.

Q These plants where you have incremental capacity, is the tonnage sold at cost?

A Well, never intentionally.

Q Do you normally make a profit on --- tonnage?

A Yes, we do.

Q That is, on the tonnage gas?

A On the tonnage portion, yes.

Q Do the customers of Air Products that have their own plants, that is, either purchased a plant from Air Products or other companies, do they have incremental capacity?

MR. TOPKIS: Your Honor, could I have that question back?

I think it is not properly framed.

JUDGE BARNES: All right, let's read the question back.

(The pending question was read by the Reporter.)

MR. TOPKIS: I press my objection.

The question is bad as to form, what does a customer of Air Products who has purchased his plant from another company mean?

JUDGE BARNES: I think it is a poorly phrased question, poorly framed.

MR. THURMAN: Your Honor, if the witness understands the question, I do not know. I will rephrame the question.

Has Air Products expanded other products, such as a steel company, bought existing plants or new plants from Air Products?

THE WITNESS: WE have had at least one instance that comes to mind where a steel company or steel-producing plant has purchased an oxygen plant from Air Products in the United States.

By Mr. Thurman:

Q Does this plant have incremental capacity?

A If by that, you mean does it have capacity in excess of internal needs of that customer, there would be periods of the year in which that plant would have capacity in excess of its internal demand, yes.

Q What would that company do with its excess?

MR. TOPKIS: Not what would it do.

MR. THURMAN: Oh, for crying out loud.

MR. TOPKIS: What did it do.

If we are talking about internal, we ought to have the facts.

JUDGE BARNES: That is right, what did it do.

MR. TOPKIS: If the witness knows.

THE WITNESS: It has sold that capacity, spare capacity to Air Products for distribution in the general market.

MR. THURMAN: Your Honor, this witness is an expert in this industry and certainly, he can ask.

He does not have to be down to a particular plant. We have people who are not experts here and certainly, he can say what he knows in the industry. And Mr. Topkis is trying to ---

JUDGE BARNES: The question was asked and answered so we can proceed.

By Mr. Thurman:

Q Do you consider companies who are backward integrated as competitors or potential competitors?

MR. TOPKIS: Could we know what that means?

By Mr. Thurman:

Q Do you know companies like Ford?

A Yes, Ford.

Q That have their own plant, do you consider ---

MR. TOPKIS: Oh, okay.

THE WITNESS: Their own oxygen plant and steel plant.

By Mr. Thurman:

Q Right.

A Yes, we do.

This was really the particular customer that I had in mind when I gave my explanation.

Q Do you consider them a competitor or potential competitor of Air Products?

A No, sir.

JUDGE BARNES: Was your question broader than just Ford?

MR. THURMAN: Yes, anybody that has their own plant.

THE WITNESS: Yes, there are a few other instances in the steel and the chemical industry where people have chosen to own their own plant rather than purchase gas.

And the normal pattern has been that any surplus to their requirements is sold to the industrial gas industry for distribution to the general market.

By Mr. Thurman:

Q Is the sale of that excess usual or on a spot basis?

A It is on a spot basis and it is normally, you know, related to the incremental, although there have been cases where the individual companies have contracted to supply surplus over a fixed period of time to an individual distributor.

Q There is testimony in this record that volume has been increasing and unit value has decreased. Do you know the reasons for that?

MR. TOPKIS: Are we talking about anything in particular?

MR. THURMAN: We are talking about industrial gases, I thought that is what ---

MR. TOPKIS: I do not think there is testimony in this record that that is true of industrial gases. There is quite specific evidence in this record as to particular gases.

By Mr. Thurman:

Q Oxygen, nitrogen and argon ?

A Yes.

Q Talking about tonnage?

A Yes, I think there has been, if you take the composite of all gases produced and sold, then, I really haven't studied personally.

I think you are referring probably to the Census information, but it is certainly true in our own company and I think this is generally true, that there has been an increasing rate of volume shipments, and a declining unit value of such shipments.

Now, this comes about because of, well, several factors. One, when a customer buys liquid, and pays a price, say for five million feet a month and he pays a price approximately, 15 cents and he takes a decision to shift from purchasing liquid to buying gas from an on-site plant, then, the price drops from about 15 to, oh, say, six to eight cents.

So, there is a sharp drop in price. Now, normally, that decision is also coupled with a decision to expand the application and use of those gases, so that you not only get a drop in price but you get an increasing volume.

And so if you take the weighted average of what existed previously and compared it after the fact, you will find that is the case. Also, there has been an increasing use of tonnage oxygen and tonnage nitrogen in these various industries, in the electronics, in the food processing, and that volume growth has been quite substantial.

And so that particular pipeline business, when you divide it into the total value of shipments, will have an averaging-down effect of the unit value of those shipments.

That has been the basic pattern.

Now, there also is a case where individual liquid customers grow in size. And the industry pricing practice is to jprice product on cost to deliver and the cost of delivery of large volumes is less than for small volumes and as a consequence, the average price declines as the customer profile increases in an average size.

And that also has been a pattern, because of the increasing demand of individual customers to take more gases at a consequential lower average price.

Q Do you have economies of scale?

A There is an economy of scale in the distribution and in the administrative costs and also the investment required to serve individual accounts.

MR. THURMAN: Excuse me just a minute.

(Brief pause.)

By Mr. Thurman:

Q Has Messer Grieshiem and Linde AG joined together in your knowledge in entering markets?

A yes.

MR. TOPKSI: Any markets?

MR. THURMAN: In entering markets.

JUDGE BARNES: Entering markets.

THE WITNESS: It is my understanding that they do cooperate together in markets outside of Germany, that they approach those markets in a unified way.

JUDGE BARNES: Is this Union Carbide?

THE WITNESS: No, these are the two German firms that I think I referred to in my previous testimony. To Messer Grieshiem and Linde AG, it is the same name as Union Carbide but the German firm.

By Mr. Thurman:

Q In your opinion, if they were to enter the United States market, could you consider them as a consortium, appearing as a consortium?

MR. TOPKIS: Would he consider them as a consortium? I think that w [illegible] be a legal conclusion, wouldn't it?

JUDGE BARNES: Is your question, Mr. Thurman, whether they would enter individually or jointly?

MR. THURMAN: That is the question, Your Honor.

THE WITNESS: Well, to my knowledge, they have not at this time adopted the practices as far as the United States market that they have adopted in European, or South American, or South African markets.

So, you know, I could only speculate as to what their actual method of entry into the United States market might be. If it were to follow the other pattern, then, they would probably join as a joint venture.

But I just have no judgement about any specific plans that they may have.

JUDGE BARNES: Are they in this market at all, do you know?

THE WITNESS: The firm German Linde does offer to supply Plants into this market. Messer sold their plant business to German Linde a few years ago and so is no longer an independent supplier of such plants, that is, oxygen plant building. That is

By Mr. Thurman:

Q If Air Products were not participating in the United States industrial gases market, and had an interest in entering, are there attractive small companies operating in the United States industrial gases market today?

MR. TOPKIS: Could we have defined what does attractive mean, what does small mean? And beyond that, I think since the question so obviously depends on an assumption wildly contrary to fact, it is objectionable on that ground too.

JUDGE BARNES: I think it is. Air Products has been in this market for a number of years, they are one of the larger companies.

I think your question is really too hypothetical. You might rephrase it in a different manner.

MR. THURMAN: I want to know if it is an attractive acquisition.

JUDGE BARNES: Are there attractive markets in the industry today that would be attractive to Air Products to acquire, is that your question?

MR. THURMAN: Yes.

MR. TOPKIS: Today, is Air Products interested in acquiring some companies, is that the question?

MR. THURMAN: No, not entering in the market but if they were going to enter the market.

JUDGE BARNES: I think that is too speculative.

MR. THURMAN: They have entered markets throughout the world, started out in this country and their first venture was out in BOC's territory in the United Kingdom. Certainly, they would know if there is any, any studying country, they would know who their competitors were here in this country and whether they would be attractive acquisition companies.

JUDGE BARNES: You can ask him if there are small companies in the industrial gas industry that would be attractive to some firm who wanted to enter this market.

By Mr. Thurman:

Q Are there small companies operating in the industrial gases market in the United States that, in your opinion, would be attractive to a potential entrant into this market, for acquisition?

A As an acquisition?

Q Yes.

MR. TOPKIS: I will just note my objection for the record and assume Your Honor will overrule it.

JUDGE BARNES: All right, yes, you may answer the question.

THE WITNESS: I would have to answer that affirmatively, yes, there are a number of regional companies that would certainly accelerate the pace of an entrance into this market through their acquisition.

By Mr. Thurman:

Q A company with BOC's abilities, could they, would BOC expand one of these markets into a national competitor?

A Well, of course, they would have to make a deal to acquire them, first. And, of course, it takes two to make a deal but assuming that such an arrangement could be consummated, there are regional companies in areas of high industrial activity which certainly could be expanded.

Q What does it mean, if a company or plant is rated 150, 200 tons per day liquid?

A That would be normally the liquifaction capability of that plant in terms of liquid tons a day of gas. And that gas could be either oxygen, nitrogen or argon or a combination of all three, which would add up to a total weight of such gases produced in one day or so liquified in one day of that particular rating, 150 or 200.

Q Are you familiar with the Niagara Falls plant of Burdett of Cleveland?

A To a degree, yes.

Q Do you know what the liquid rating of that plant is?

A I believe it is 100 tons ---

MR. TOPKIS: Excuse me, Your Honor.

When we had the owner of that plant here, it seems to me that to ask this gentleman who can only know far less accurately than that owner, is a far less better way to proceed.

I thus object, on the best evidence grounds.

MR. THURMAN: I see no reason why Complaint Counsel should be required to call a witness from Cleveland to answer that one question.

Certainly, this was brought out on Cannox, who was trying to acquire the plant but did not know the liquid capacity of that plant.

MR. TOPKIS: Right.

JUDGE BARNES: If Mr. Baker knows, he may answer; if he does not know, he can't answer.

MR. TOPKIS: May I ask the basis of his knowledge?

JUDGE BARNES: Yes, you may.

What is the basis of your knowledge, Mr. Baker?

THE WITNESS: Hearsay.

MR. TOPKIS: I press my objection, Your Honor.

By Mr. Thurman:

Q Maybe it is reliable hearsay. What is it?

A Well, it would have to come from other people in our company who have dealt with those people over a period of time, and I have been told by people who work for me ---

MR. TOPKIS: I object. Forgive me for interrupting, sir, but that is exactly the point of my objection.

JUDGE BARNES: You have been told by people in your company?

THE WITNESS: Yes.

JUDGE BARNES: Is it their duty or their job to know the capacity of these plants?

THE WITNESS: Yes, normally, becuase we have product swap arrangements with different members in industrial gases where we trade our product and so we would like to know how much product they would have available at a particular location so that we would be able to trade product from another location. So, it is very much part of the industrial gases business.

JUDGE BARNES: What is your understanding of the capacity?

THE WITNESS: 100 tons a day.

By Mr. Thurman:

Q That is liquid?

A Yes.

Q Any tonnage gas will be extra?

A That is correct.

Q It is my understanding that Air Products operates in several markets throughout the world and also Air Products' competitors, Liquid Air, BOC and such.

Are ther any transferring of personnel among the various countries, by company?

A You mean between companies?

Q No, no, between countries, in a company.

A Oh, yes.

MR. TOPKIS: By individual companies around the world?

MR. THURMAN: Yes.

JUDGE BARNES: Does Air Products transfer its personnel?

THE WITNESS: From one country to another? Oh, yes, quite frequently.

By Mr. Thurman:

Q Do you know if this is practice of other companies, practicing in more than one market?

A I believe so, yes.

Q How about between Canadian operations and United States operations?

A I believe senior members of the Canadian Liquid Air Corporation now work for Liquid Air of the United States, yes, sir.

Q In your business judgement, Mr. Baker, would BOC's size have any effect on whether BOC can successfully operate a small company in the United States?

MR. TOPKIS: In the rayon business, I assume?

JUDGE BARNES: In the industrial gas business.

MR. THURMAN: Certainly, Your Honor. I can say that each time. He knows.

THE WITNESS: Yes. Well, I think it is a matter of record that British Oxygen has small size companies in different parts of the world and operates them very successfully.

By Mr. Thurman:

Q Approximately what percentage of merchant contracts come up for renewal each year, Mr. Baker?

MR. TOPKIS: Objection, Your Honor.

MR. THURMAN: In the United States.

MR. TOPKIS: Across the board?

JUDGE BARNES: Yes, how about this, Mr. Thurman? Do you mean merchant contracts now?

MR. THURMAN: Yes.

JUDGE BARNES: I think you should have a foundation question or limit this to Air Products or ---

MR. THURMAN: Air Products, that is good.

MR. TOPKIS: So, the question is what, what percentage of Air Product's contracts with whom, its Distributors? Individual accounts? Across the board? What?

JUDGE BARNES: He said merchant.

MR. TOPKIS: Yes, but those are all possible merchants' contracts, I believe.

JUDGE BARNES: He can answer generally if he knows.

THE WITNESS: Well, taking all of our contracts together, approximately one-third of them come up for renewal each year.

By Mr. Thurman:

Q With distributor contracts, are they subject to ---

A The normal terms and conditions of our distributor contract is that they can be cancelled on, I believe, it is 90-days' notice, by either party.

Q Do you know if this is comparable throughout the industry?

MR. TOPKIS: Oh, Your Honor, I object.

There have been people here from every company in the industry. If this information were pertinent, it should have been elicited from him.

JUDGE BARNES: If Mr. Baker knows, he can answer.

MR. TOPKIS: Your Honor, forgive me, please, but he cannot know the terms of other people's contracts unless he had read them.

If he does, it is hearsay. The contracts are the way to prove it.

I cannot cross-examine a contract that he read five years ago.

JUDGE BARNES: Mr. Baker, do you have knowledge of other company's practices?

THE WITNESS: Yes, our practices are very comparable to the whole industry.

JUDGE BARNES: How do you know this?

THE WITNESS: Because we compete on our competitors' contracts as they come up for renewal, and as they compete on ours.

MR. THURMAN: We have no further question, Your Honor.

JUDGE BARNES: All right, we will take a 10-minute recess.

MR. TOPKIS: Thank you, Your Honor.

JUDGE BARNES: Yes.

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(A brief recess was taken.)

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JUDGE BARNES: Mr. Baker wishes to make an addition or correction to his previous testimony.

THE WITNESS: Yes. In connection with the length of the agreements for our distributors, it is true that our distributor agreements involving largely the sale of equipment, welding and cutting apparatus, are of 90 days duration. But where we supply gases to such distributors, those terms are similar to our industrial terms, running anywhere from one to ~~50~~ 15 years, with a pattern being of five years' duration.

JUDGE BARNES: All right. Cross-examination.

REBUTTAL CROSS-EXAMINATION

By Mr. Topkis:

Q Mr. Baker, I take it your company is today the smallest participant in the Canadian industrial gases business, is that right?

A I believe so, yes.

Q And ~~Cannox~~ Canox is the next smallest?

A I believe so.

Q And you testified, Mr. Baker, that between May of 1972 and May of 1974, your company had a certain growth in shipments of industrial gases. Do you remember that testimony?

A Yes.

Q Were you referring to growth in physical volume or growth in dollars?

A Volume.

Q Physical volume, I see. Where did you get the additional gases from that you sold in May of '74 as opposed to May of '72?

A Well, we had surplus capacity in '72 and we added new capacity suring that period of time.

Q I see. Do you happen to know, sir, the total capacity that you added between May of '72 and May of '74?

A No, I can't quickly recall it.

Q You actually shut down some plants in that period, didn't you, Mr. Baker?

A We had a -- yes, we have shut down some small plants, right.

Q Specifically shut one down, or you shut down one at Granite City, Illinois?

A Not during that period, no.

Q When was the Granite City, Illinois plant shut down?

A Oh, there is a 70 ton per day unit that was probably shut down back in the late sixties, '68, '69, around there.

Q You were supplying either General Steel or Lipsitz Steel?

A Yes, I think General Steel Castings went out of business or something.

Q Well, they were being supplied from 450 ton a day at that plant, weren't they?

A Yes, by pipeline. That is the same plant that supplies at that location. General Steel is a small local fabricator adjacent to Granite Steel.

Q What other plants did you shut down between May of '72 and '74?

A Well, there were two 15-year old plants in Pittsburg at Creighton, what we call our Creighton-Pittsburg plant.

Q Right.

A And one of those plants was sold to Northern Gases, and the other plant was sold to a gas company in Taiwan, China.

Q Those were both 80 ton per day plants?

A Yes, I said a a hundred ton -- 80 to 100, be 80 oxygen.

Q Right. And they were sold after February 20, 1973, weren't they?

A I think that is right, we bought a brand-new plant on stream to replace them because of their high cost and age.

Q And you also shut down a plant at New Johnsonville, Tennessee, didn't you?

A Yes. There was an old plant of 25 tons a day capacity there that was replaced by a new plant, right.

Q How about one of 85 tons per day?

A That plant is still operating.

Q Oh, that was the one that was going to be ---

A At New Johnsonville.

Q Yes, sir?

A That one is still operating.

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Q That was one that was scheduled to be mothballed?

A Well, I think what you may be referring to was that we did add a new plant at that sight, and when the plant was added, it was anticipated that Du Pont would not need that plant's output and subsequently, Du Pont's need was such that they did require the output of that plant.

Q I see. Have you since February of 1973 expanded your Burns Harbor plant?

A Yes, we have.

Q And your Cleveland plant?

A Since ~~1937?~~ 1973?

Q Yes, sir.

A I think the expansion at Cleveland probably would have come in just slightly before that date or about the same time.

Q Now, how about Geismar or Geismar?

A Geismar, yes.

Q Geismar, Louisiana?

A Yes.

Q You have expanded your facilities there, too?

A Yes, we built a new plant there. The customer owned a plant which he shut down, and we subsequently modified that plant and restarted it up, and are using it to supply that customer, right.

Q And you have also built a number of new plants?

A Yes.

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Q And you have announced plans for building a number of additional plants?

A Additional plants, that is correct.

Q That is right. Now, you testified, I think, that you have received inquiries from various companies interested in being supplied with industrial gases by you?

A Right.

Q Those inquiries have not gone to your company alone, have they?

A I presume not.

Q And in supplying customers, you are giving preference to established customers rather than to supply new customers; is that correct?

A As a general rule, yes.

Q And you imagine your competitors are doing the same thing?

A That is correct.

Q Have you rejected any inquiry?

A We have told customers recently that we are unable to supply their requirements. I guess that is -- am I answering your question?

Q Will you please name the customers to whom you have told that?

MR. THURMAN: Objection, Your Honor.

THE WITNESS: No, I cannot do that, out of confidence to them. I would be disclosing their investment plans.

MR. TOPKIS: Well, then Your Honor, I move to strike the witness' testimony on this subject.

MR. THURMAN: Your Honor, certainly one thing the Commission provides for is that a company doesn't have to give up their customer list; this is very sensitive.

MR. TOPKIS: I am not asking for customer lists, I am asking for customer rejections.

MR. THURMAN: It is the same thing.

MR. TOPKIS: Oh, no, it is exactly opposite.

MR. THURMAN: Oh, no, certainly not.

THE WITNESS: I think I would be prepared to show Your Honor this information, but not to a competitor.

JUDGE BARNES: Well, could we have the names written on paper and placed in camera? It would be disclosed only to the counsel of record here.

THE WITNESS: If it would not go back to our competitors, I would be assured of that by Your Honor, I would have no objection.

MR. TOPKIS: That is satisfactory to me.

JUDGE BARNES: We will make this a Complaint Counsel exhibit number, if you will give me an exhibit.

MR. TOPKIS: Your Honor, so that I may refer to it in interrogating the witness, first may they be identified by letter, as well?

JUDGE BARNES: All right.

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MR. THURMAN: I think this would be a Respondent exhibit; he wants it.

JUDGE BARNES: All right, we will put a RX number on it. Can we get a number?

MR. TOPKIS: 256, Your Honor.

JUDGE BARNES: All right, RX-256 will be a listing of customers, which the witness stated his company was not ablt to serve. I will ask that he write them on the piece of paper and put a company name opposite a letter, for example, A, B, C, D, and this document will be received in evidence as BOC-RX-256 (in camera).

XXXXX

(The document referred to was marked BOC-RX-256 (in camera) for identification and was received in evidence.)

THE WITNESS: Would you like me to do that now?

JUDGE BARNES: Yes. I don't know that it is necessary that you name them all, but certainly give us a list.

THE WITNESS: Well, there is just two principle ones that we have taken action on.

JUDGE BARNES: All right, this document will go in camera, and will not be disclosed to anyone but counsel in these proceedings.

MR. TOPKIS: Very well, Your Honor.

(Judge Barnes hands the exhibit to Mr. Topkis.)

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By Mr. Topkis:

Q I take it, Mr. Baker, from the identify of the company listed on BOC-RX-256, that this was a request by that company -- let's refer just to letter A for the moment -- that you constructed a plant; is that correct?

A That is correct.

Q And the same is true of the company in opposite letter B; is that correct?

A That is correct.

Q Have you refused any requests from any other companies that you construct plants for them, in the last year, let us say?

A Up to this time, no.

Q Fine. Would you please write on this exhibit the location in which those, the two plants listed on this exhibit, were to be constructed, subject, of course, to the same protection?

JUDGE BARNES: Well, I don't think we need the location of the plants.

By Mr. Topkis:

Q Well, may I ask the question this way, Your Honor -- did the requests by the company listed as to A, and the company listed as B involve any departure from the normal operational area of those companies?

A No, I don't think so.

dr6

Q As to A, Mr. Baker, was that a tonnage supply scheme?

A That would be a tonnage oxygen plant, yes.

Q Right, which was to be used, or which was to be used to supply a company other than the company listed as A; is that correct?

A That is correct. The output of that plant would serve other people.

Q Right.

A As well as themselves, of course.

Q Yes. And the same is true as to B?

A Yes.

Q Did your company receive inquiry from the ultimate tonnage consumer as to either of these two plants?

A I think in the second case, yes.

Q And how did you respond to that?

A We were unable to supply that requirement.

Q Did you bid or did you not?

A We declined to bid.

Q And some other company got the contract?

A Yes, sir.

Q And the same is true as to A?

A The company in request?

Q The same is true as to A?

A I don't know in the case of A because we don't know what the ultimate disposition of that product is going to be.

dr7

Q I see. But at least as to the one where you do know, a contract was let and the plant is under construction, or at least is scheduled for construction?

A I don't believe the contract has been let yet, that is why there is a sensitivity about this.

Q I see.

A Because you are dealing with future plans of that particular firm.

Q I see. Okay, fine.

So far as the ultimate tonnage customer on A is concerned, and just to refresh you, let me show it to you.

A Yes.

Q Was that ultimate tonnage customer an existing customer of Air Products?

A As I said before, I have no specific knowledge as to what the ultimate disposition of that is going to be.

Q Okay, same question as to ~~be~~ B?

A And it could be more than one customer actually.

Q All right, same question as to B?

A In the case of B, it was a single customer.

Q Right.

A And the question again, please?

Q Was that single customer then a customer of Air Products?

A Yes.

Q On a tonnage scheme, or merchant?

dr8

A On a tonnage scheme, at a different location.

Q At a different location, I see.

A And also as a merchant customer.

Q Right. And was that customer simultaneously a tonnage customer of the company listed as B?

A I believe they are.

Q Now, you have testified in connection with your Brazilian operation, sir, that you are constructing an air separation plant in Sao Paulo?

A That is correct.

Q And you have testified, I think, that you have got 300 tons of liquid capacity there?

A That is correct.

Q Do you have tonnage capacity in addition?

A No.

Q So, it is just a straight merchant plan?

A The full output will be liquidified, sir.

Q You answered my question in a fashion different from the way in which I phrased it, and let me explore that.

A Well, I am trying to make a distinction between tonage where tonnage in excess of what would be liquidified, and the plant where total output can be liquidified. That does not mean that from time to time you could not supply part of the capacity that you have reserved for liquifaction as a gas.

Q If a customer wanted it?

A Yes, and he happened to be in close proximity. But the plant is designed basically to provide liquid.

Q Does it have a 300 ton liquifier on it?

A Yes.

Q And it has also a capacity for expansion, has it not?

A Well, we could add further liquifaction capability at that same site to this facility.

Q Could you also add additional air reduction capacity?

A No, you would need a larger distillation capacity than we have installed.

Q Could I ask that the witness write on BOC-RX-256 also for in camera treatment, Your Honor, the name of the ultimate customer as to B, whom I believe he has said is known to him; is that correct, sir?

A Yes, I can do that, if it is again kept in confidence.

JUDGE BARNES: Well, is it necessary?

MR. TOPKIS: I don't know, Your Honor. I won't know until I know the answer to the question. I don't see any harm done in doing it.

MR. THURMAN: Well, I don't see the relevancy of it. We object on relevancy.

JUDGE BARNES: I think this has been explored enough. He stated that he had been unable to serve two customers, he has told you who they were, why do we have to go any further on it? I don't see the relevancy of it, really.

MR. TOPKIS: Well, without knowing who the customer might be, Your Honor, I cannot suggest an answer to Your Honor. But I cannot see any harm that is done by a man writing a name on a piece of paper; that is all I am asking him to do.

JUDGE BARNES: Well, if he has no objection, I will permit it. But I will not require it; put it that way.

MR. THURMAN: I believe he stated this is sensitive to start with.

THE WITNESS: Well, that is my concern. Basically we are dealing with, you know, long-term investment decisions here, and with all due respect to proceedings here, it is a sensitive information.

JUDGE BARNES: I think we have gone far enough, then.

MR. TOPKIS: Very good, Your Honor. I bow to Your Honor's ruling.

Now, Your Honor, if I may address the court for a moment, I just want to explain why I am going to ask Mr. Baker the next question, We have in the record as of this moment, an affidavit by Mr. Mc Ginnis -- no, I'm sorry, it was rejected, but we have the figures. No? Excuse me just a moment.

We have a stipulated figure, Your Honor, as to Air Products for the data it reported to the census for 1972. I would like to elicit from the witness, and I don't care whether

I get it orally, indeed; I would be surprised if I could get it orally, but in order that the record be complete, I would like to have the same information for 1973, since Complaint Counsel asked him to compare 1972 and 1974.

JUDGE BARNES: Well, if he knows.

MR. THURMAN: It has nothing to do with this affidavit, now. This affidavit was rejected bacause it ---

MR. TOPKIS: Easy, easy.

MR. THURMAN: We were told if we wanted to have that in to call Mc Ginnis.

MR. TOPKIS: And we stipulated to it .

MR. THURMAN: Stipulated to what?

MR. TOPKIS: We stipulated to the figure that Air Products reported to the census for the year 1972. I request the same information for the year 1973. I repeat, I ---

MR. THURMAN: We certainly have no objection to that going in, if he knows. But we didn't get that figure from this witness, we got the actual backup documents and we took it from that, and that is how they stipulated. We were not asked to stipulate to the iron and steel industry without any backup documents which got in the record. We furnished the actual backup documents, and if he wants to get the documents for this, fine.

JUDGE BARNES: Well, Mr. Baker testified to a certain growth. If he knows the census figure, I will have it placed on a -- I don't know, this is not his affidavit, I am not certain that this will help any.

MR. TOPKIS: No, I am not going to show it to him. I wanted to show it to my self. I am sorry.

JUDGE BARNES: All right, if you know.

THE WITNESS: I don't know the census -- I don't know whether in fact it has been submitted to the Census Bureau for 1973 yet.

MR. TOPKIS: I see.

THE WITNESS: So, you know, I just cannot respond to it.

MR. TOPKIS: All right.

By Mr. Topkis:

Q You did know the figure as to 1972, didn't you, Mr. Baker?

A You are talking about census figures?

Q Yes, sir. Well, shipments at actual invoice value.

A I think there has been an affidavit provided by somebody in our company to that effect.

Q No, I am asking you, Mr. Baker, whether you didn't testify in this case as to your shipments at actual invoice value for the year 1972? And I will go farther and ask you whether you didn't testify that it was 108 million?

A Again, I think we are talking about the same thing, that there was an affidavit submitted which I was asked to confirm were these the correct information, and I said I believe that to the best of my knowledge they were the best information.

Q Weren't you asked this question by me, and didn't you give this answer: Question: For the year 1973? Answer: I believe our shipments at actual invoice value was approximately $108 million.

A Oh, now you are talking about dollar value.

Q Yes, sir.

A Oh, I thought you were talking about volumes earlier on.

Q No, I apologize if I misled you.

A All right.

Q $108 million, that was the figure for actual invoice value of your shipments for the year 1972, right?

A That is correct.

MR. THURMAN: Your Honor, objection.

By Mr. Topkis:

Q Now, would you please tell me the same figure for 1973?

MR. THURMAN: Objection. Mr. Topkis is trying to confuse the record. He is going from census to actual invoice value.

MR. TOPKIS: That is what census asks for.

MR. THURMAN: Census asks for shipments f.o.b. plant. He is talking about apples and oranges now.

By Mr. Topkis:

Q I will take the comparable figure. What compares with $108 million for 1972?

A I don't have a dollar figure in front of me for 1973.

Q Did you approximate it, sir?

A I could approximate it, yes. I would have said it was up approximately 25 percent.

JUDGE BARNES: Dollar-wise?

THE WITNESS: Dollar-wise, yes.

By Mr. Topkis:

Q How about fiscal 1973 as compared with fiscal 1972, sir?

A They would again be about the same ratio.

Q About 25 percent up?

A 25 percent, yes.

Q 25 percent up. In your figures, sir, pardon me, in your company, industrial gases are part of a larger division, or something like that?

A That is a grouping of divisions.

Q Right. But it is called an operating group?

A Right.

Q And industrial gases are within the gases and equipment group?

A That is correct.

Q And for 1973 over 1972, the gases and equipment group had an increase in sales, did they not?

A I believe so, yes.

Q Do you happen to recall the percentage?

A No, I don't.

Q Was it less than five percent?

A I just don't recall it. You have the report in front of you, so whatever it says is the number.

Q I certainly agree with you. And I show you BOC Exhibit RX-186, and call your attention to page 16.

A All right.

Q And ask you, sir, whether with your recollection thus refreshed, you can tell us the increase in sales, fiscal 1973 over fiscal 1972?

MR. THURMAN: Objection.

JUDGE BARNES: What is the objection?

MR. THURMAN: Two things -- first, it is outside the scope of direct. And secondly, it is not relevant. He is talking about sales; we were talking about industrial gases.

JUDGE BARNES: Well, I think this is relevant on cross-examination.

THE WITNESS: Yes.

JUDGE BARNES: They show a grouping increase rather than industrial gases.

THE WITNESS: That is right. And there is a very clear reason for that. That grouping includes equipment sales. And equipment sales are of a cyclical pattern. So, that in any one particular year, you may have large or low sales, based on the accounting practices we employ of including them when the contracts are actually completed. So, if it is completed by the 30th of September, it is included. If it is completed by the 10th of October, it is excluded, in that fiscal year's results.

And so the equipment business does have a cyclical effect on annual sales figures.

By Mr. Topkis:

Q Gases account for significantly more than 50 percent of the total sales of that operating group, don't they?

A Yes, it would. The $108 million would compare with the 1972 listed there in that particular year. And, I think actually we probably have stated in there that we completed certain large plants during that year in the text of the report. I think there was a large LNG plant that was completed, and a large number of heat exchangers for another plant that were shipped during that particular period.

Q And those would be included?

A In that grouping.

Q In these figures, right?

A In those figures, yes.

Q Right?

A And I believe they were included in the 1972 results, but there were not similar shipments included in the 1973 results.

Q I see.

A Because of the incidence of contract closing.

Q I see. So you tell us that in 1973, as opposed to 1972,

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and now I am talking calendar, sales of gases were up about 25 percent in dollar volume?

A Well, you are talking calendar, I was referring to our fiscal years.

Q Well, no, you weren't referring to your fiscal years, were you, sir? Your fiscal year ends September 30th.

A Right.

Q All right. Let's take it this way, for fiscal 1972 over 1971. Your total sales of your gases and equipment group went up from $157.3 to $172 million, isn't that right?

A Yes, I think that is what it says here. Right, yes.

Q And for the next fiscal year, it went up to $180.5 million, right?

A Correct.

Q And, as a matter of fact, sir, starting with 1969, your trend in dollar sales had been steadily up at about the same percentage, roughly, isn't that right?

A I guess.

That is correct, yes.

Q Now, so if your gases increased 25 percent, from 1972, and now I am not talking fiscal, I am talking calendar, and I will ask you the foundation question first, did your gases sales go up 25 percent in dollars between 1972 and 1973?

A I think I indicated earlier that I did not have the exact figures, but I approximated that would be correct, yes.

Q Okay. And if you testified earlier your sales were $108 million during 1972 ---

A Right.

Q --- that would put them at about $135 million in 1973, right?

A Right, yes.

Q Did the bottom drop out of your equipment sales, or something like that?

A No, as I tried to indicate to you, the actual completion date of any individual contracts determines which fiscal year that it is included in. So, you could have a ten million dollar shipment that was completed, let's say, in September of one year, and it would be included in that particular year, and in the following year if it was completed, a similar shipment was completed, say in October, then it would be out of that next year. So, the incidence of the contract completion date has a significant effect as to when large increments of sale are included in any one particular year.

Q And that is delivery of plants; that is what you are talking about, right?

A That is delivery of plants and equipment, that grouping includes plants and sales.

Q Right. And in 1972, during calendar 1972, what plants you completed.

A Well, not from memory, in that precise time-scale, because

I would have to look it up.

Q And equally, you are not sure about 1973?

A No, again, because the actual date with respect to a calendar year or fiscal year would affect published information.

Q Actually, did you complete any plants that you delivered to anybody else in 1973?

JUDGE BARNES: Calendar 1973?

By Mr. Topkis:

Q Calendar 1973?

A I believe there was a shipment of one heat exchanger to the Shell LNG plant in 1973.

Q How about in 1972?

A I think in 1972 we had significant shipments, and again I am talking about a calendar -- I mean, fiscal year basis.

Q Yes, you are talking about calendar, I am talking about fiscal as His Honor pointed out.

A Okay. I would have to reconstruct the information. I just don't have it on a calendar basis.

Q Do you have it on a fiscal basis in your head?

A Well, I have a surmise of what it is, yes. I think the report will attest to that. The text of the report talks about shipments, I think, of items that are included.

Q The '73 report, sir, is that the one that you are referring to?

A Do you have the 1972 or --

Q Yes, I think we do.

A I think the 1972 report would refer to the shipment of very large LNG exchangers to the Brunei project, which was a very large dollar value.

Q How do you spell that, sir?

A B-r-u-n-e-i.

Q Is that an earning country or what?

A It is part of Sarowac, which is in the outer -- it is part of Borneo, I beg your pardon. And it is listed here, those exchangers did start up in production in 1973. So, they were shipped in 1972. They started up in 1973, they went operational.

Q In 1973?

A And they were shipped in 1972.

Q That is fiscal 1972?

A Right.

Q So that they would be included in your fiscal 1972 sales?

A The results, but they would not be included in the 1973 results.

Q Right. Now, would there be any completion in fiscal 1973?

A My recollection is that as far as our fiscal year is concerned, it was a very low year for actual contract for actual completions of equipment.

Q What was the contract price on that Brunei sale?

JUDGE BARNES: I don't see this.

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MR. THURMAN: Objection.

MR. TOPKIS: Well, Your Honor, the witness has just said that this has made the difference. I want to know how much of a difference. And I would imagine that there can be no secret about what a country pays for a ---

THE WITNESS: Well, it was not a country, it was an individual company who bought that equipment from us.

JUDGE BARNES: Can you give us an approximate figure on it?

THE WITNESS: Yes, it was an eight figure contract value, in excess of $10 million.

By Mr. Topkis:

Q And under 20?

A And under 20, that particular contract.

JUDGE BARNES: I propose we adjourn for lunch now. Would that be ---

MR. TOPKIS: What ever Your Honor wishes.

JUDGE BARNES: Off the record.

(Discussion off the record.)

JUDGE BARNES: Back on the record.

By Mr. Topkis:

Q You testified, I believe sir, that in the last, oh, couple of years or something like that, as demand has firmed up for industrial gases, marginal prices and costing has yielded to full prices and costing. Do you remember that testimony?

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A Yes.

Q That is to say you were trying to get your preferred profit margins; is that right?

A Well, that is your term, we are trying to get our historical ones, if you will.

Q Okay, fine.

A The ones we built the plant in anticipation of, yes.

Q All right, that is true of your company?

A Yes.

Q You really don't know whether that is true of any of your competitors, do you? You haven't discussed that subject with them, have you?

A No, sir.

Q Now, on the subject of your entry into the U.K., in the 1950's, at that time British Oxygen -- well, at that time you began offering five-year contracts to customers, did you not?

A That is correct.

Q And at that time, British Oxygen was permitted to offer contracts of no more than one year's duration; is that correct?

A That is correct. That was the proviso of the Monopolies Commission.

Q Right, sir. And similarly, the Monopolies Commission required British Oxygen to publish its prices, did it not?

A That is correct.

Q And it forbade British Oxygen to deviate from those prices, 27/74 did it not?

A That is correct.

Q And you were not so restricted?

A That is correct.

Q You said, sir, that there were some regional companies in the United States which, the acquisition of which, assuming their willingness, could accelerate one's entry into the United States?

A Yes.

Q What regional companies did you have in mind, Big Three?

A No, I think they are a fairly large regional company, certainly if one could acquire them it would accelerate one's entry. I would think more in terms of Burdett of Cleveland, Burdett of Norristown, Alabama Oxygen, Selox, Pacific Oxygen, firms of that nature, Northern Gases.

Q That is about it, isn't it?

A They would be the principal ones that come to mind. Big Three certainly is a regional producer, but very much larger in size.

Q Right. In Canada, sir, you are selling the air gases?

A That is correct, oxygen, argon, and nitrogen.

Q You are not selling any carbon dioxide?

A Not to my knowledge. We may sell small cylinder quantities but it is not a significant part of our business.

Q You do sell carbon dioxide in the United States?

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A Yes, we do.

Q Who are the principal sellers of carbon dioxide in the United States?

A Liquid Carbonic would probably be number one.

MR. THURMAN: Objection, Your Honor. It is outside the scope of direct.

JUDGE BARNES: Overruled.

You may proceed.

MR. TOPKIS: Thank you, Your Honor.

THE WITNESS: Liquid Carbonic, the Chemetron, Air Reduction Company. There is two smaller companies, Southwest Cryogenics, I believe is the name of one, and Carbon Air, is the name of another one.

By Mr. Topkis:

Q And you have listed them in the order of their significance?

A The last two I would not know what their relative market ---

Q Up to the last two.

A Yes, the first three, certainly.

Q Okay. Since you last testified in this case, Mr. Baker, how many times have you spoken with Complaint Counsel?

A I would say twice.

Q Where, sir?

A In Allentown, and in Washington.

Q With whom did you speak?

MR. THURMAN: This is interesting, but what relevancy does this have to this case?

JUDGE BARNES: I will permit him to answer.

THE WITNESS: Well, most of the gentlemen at this table.

By Mr. Topkis:

Q Most of them?

A Yes, sir.

Q By most, do you mean four or five at a crack, something like that?

A That is right.

Q In both places?

A In Allentown, I think that three of their representatives called on us.

Q And in addition to those two occasions, I wonder, did you by any chance speak with Complaint Counsel this morning before you began testifying?

A No, sir

Q When, in what order did these two meetings take place, Allentown first and then Washington, or vice-versa?

A Yes, sir, Allentown first.

Q When was the Allentown?

A I am trying to get exactly the day, what was it, Monday?

MR. THURMAN: Last Friday, if you want to get the record straight.

THE WITNESS: Last Friday, I am sorry.

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By Mr. Topkis:

Q Last Friday in Allentown. When was the meeting in Washington?

A That was yesterday afternoon.

Q When did the meeting in Allentown start last Friday?

A I don't know when it started. I entered the meeting late in the afternoon.

Q And how long did you attend?

A Oh, maybe half an hour.

Q And yesterday afternoon, where did you meet with Complaint Counsel?

A In the FTC offices.

Q When did you arrive there?

A Approximately 3:30.

Q And you stayed until ---

A Approximately 5:30.

Q You have refused at all times to meet with us, have you not, Mr. Baker?

A I personally have not refused. But I understand that you have approached our counsel.

Q And a message of refusal was given to us to your knowledge; is that correct?

A I understand, that is correct.

MR. TOPKIS: No further questions.

end dr
EH fls

MR. THURMAN: I have two short questions.

REBUTTAL REDIRECT EXAMINATION

By Mr. Thurman:

Q In the company A on it. In camera document, on the in camera document, I don't know the number, but ---

A Yes, sir.

Q Does that have incremental capacity, that plant?

A They inquired if we would supply liquifaction capacity for both plants. So, it is both tonnage gas and liquid making capabilities to be supplied, yes, sir.

Q Is that true for B?

A Yes, sir.

Q How many plants did Air Products have in the United Kingdom when the restriction was listed?

MR. TOPKIS: When what restriction was lifted?

MR. THURMAN: The restriction you talked about.

JUDGE BARNES: When the Monopolies Commission restrictions were lifted.

MR. TOPKIS: Oh.

A We had two plants in operation and a third one in the course of construction.

By Mr. Thurman:

Q Do you recall what size those plants were?

A The oxygen capacity of it -- the oxygen liquifaction capacity, which is really the basis of restriction, is ten tons a day at Fawley and 25 tons a day in Cardiff, South Wales.

MR. THURMAN: We have no further questions, your Honor.

REBUTTAL RECROSS-EXAMINATION

By Mr. Topkis:

Q Could we just know what date that was we have been talking about?

A I thnk the one came on stream in 1961, and the other one was in 1962.

Q You entered in '57?

A Right.

Q Where were you getting your supply from?

A No, we entered the market first as a builder of equipment. And we sold appratus to steel companies, and then took a decision late in '59 to build plants for our own use, having successfully negotiated a contract to supply both a base load pipeline supply and then we added incremental 25 capacity.

MR. TOPKIS: I see. No further questions. Thank you.

XXXXX

REBUTTAL REDIRECT EXAMINATION

By Mr. Thurman:

Q One further question. Was this restriction on the merchant gas?

A Only the merchant gas. There was no restriction on tonnage gas.

JUDGE BARNES: Mr. Baker.

MR. TOPKIS: If we may have just a moment, your Honor, please.

THE WITNESS: For me?

JUDGE BARNES: Yes, I think they may have another question.

(Whereupon, there was a brief pause.)

MR. THURMAN: I don't know why Mr. Topkis has to think so long on this last question, because he is restricted to when the restrictions went on.

MR. TOPKIS: Well, perhaps I should ask for a 10 minute recess for the first time in this case. I don't need to, however.

JUDGE BARNES: Yes, sir, we will give you time, Mr. Topkis.

XXXX

REBUTTAL RECROSS-EXAMINATION

By Mr. Topkis:

Q Mr. Baker, there was a restriction, was there not, on the terms of BOC's tonnage contracts as to their duration?

A I don't believe so, sir, not the large on-site plants, no.

Q That is all.

A I believe that they were able to enter into contracts of ten to 15 years' duration and did so in parallel with ourselves during this same time period.

Q But so far as supplying customers, merchant customers?

A Merchant customers.

Q From such on-site plants?

A Yes, that is different. I meant the tonnage customers.

Q Right.

A Yes, the merchant customers during the period of these first two plants that we built, they were under restriction.

Q Right.

A And that restriction was removed when we built our third plant.

MR. TOPKIS: All right. Thank you.

JUDGE BARNES: What restriction was the first?

THE WITNESS: I would have to recall. I think '63 or '64, sometime in that period.

MR. TOPKIS: I think, to be quite sure, your Honor, so the record shouldn't contain error, it was '62.

THE WITNESS: All right, earlier than I thought.

JUDGE BARNES: All right. Any further questions?

MR. TOPKIS: No, your Honor.

JUDGE BARNES: Mr. Baker, thank you for your testimony.

THE WITNESS: All right.

(Witness excused.)

MR. TOPKIS: I will return this to your Honor, if I may.

(Whereupon, counsel handed subpoenas to his Honor.)

Thanks.

JUDGE BARNES: Off the record.

Whereupon, there was a discussion off the record.)

JUDGE BARNES: On the record.

MR. THURMAN: Complaint counsel offers CX 336A through CX 341B, for identification,to be received in evidence as CX 336A through CX 341B.

XXXXXX (The documentsreferred to, CX 336A through CX 341B, was marked for identification.)

MR. TOPKIS: Your Honor, so far as Exhibit 337 is concerned, I don't know what its date is, as it is such an excerpt, too much has been excerpted, if I can put it that way.

JUDGE BARNES: It seems to be rather ancient, too.

THE WITNESS: Yes, it does go back to 1954.

JUDGE BARNES: I believe the date at the top says United States Census, 1958, on my copy.

THE WITNESS: I think that has been cut off on my copy.

MR. THURMAN: It says inside there 54 and 58, at the top there.

THE WITNESS: Well, just so we could go find the original, may we have this document identified to us.

JUDGE BARNES: That is 337?

THE WITNESS: Yes.

JUDGE BARNES: Is there any way you can identify it, Mr. Thurman?

MR. THURMAN: Yes, it is 1958 Census, Census of manufactures.

MR. TOPKIS: Okay. I am sure your Honor can take notice of it.

JUDGE BARNES: Mr. Topkis, it is written across the top, probably your copy does not have it.

MR. TOPKIS: Right, that is cut off mine for some reason.

JUDGE BARNES: United States Census of Manufactures: 1958.

MR. TOPKIS: Right. The only point I would raise then, your Honor, is that this seems like rather ancient history.

JUDGE BARNES: I would like the purpose for the offer of 337.

MR. THURMAN: I am glad you brought that up, your Honor. That is our whole purpose. If you recall, Kridle, I believe hinted that, you know, there is a committee or something looking at a change of definition, or some such thing, of industrial gases. This is the purpose, to go back these many years and show the definition has been the same all these many years. That is the whole purpose.

MR. TOPKIS: Well, certainly whatever any other exhibit may show, Exhibit 337 to which we are now directing our attention does not show that. It contains no definitions.

MR. THURMAN: But it shows the categories -- excuse me, were you finished?

MR. TOPKIS: I, in consequence, press my objection.

I notice, i.e., that the terms seem to strange. There is something here about elemental gases and compressed and liquified gases.

MR. THURMAN: All this is the same, your Honor. It goes right down by seven digit, four digit through seven digit. That is the whole purpose.

MR. TOPKIS: That is the whole purpose of it? Then the definitions are contained in 336.

MR. THURMAN: Well, the definition, this is to show the reporting was the same, the same catetories, reporting.

JUDGE BARNES: Let me understand something now. You are offering the entire group for one purpose, is that correct, this entire group of documents?

MR. THURMAN: Yes.

JUDGE BARNES: To show that the definitions remained the same?

MR. THURMAN: Definitions and reporting categories, yes. Way back they had a shift from a number, I think in '46, the numbers shifted from one number to 2813.

JUDGE BARNES: Well, I don't believe we have an identification of these exhibits read into the record, do we?

MR. THURMAN: No, we don't, your Honor.

JUDGE BARNES: Well, can you do that, so the record will be complete?

MR. THURMAN: May I use the copies I handed, your

Honor?

MR. TOPKIS: Use mine.

MR. THURMAN: Yours are probably as bad as mine.

MR. TOPKIS: Worse.

MR. THURMAN: CX 336A is the cover sheet, the Standard Industrial Classification Manual, dated 1957 from the Bureau of the Budget. CX 336B is the definition within that manual for group number, or excuse me, for industry number or SIC 2813.

CX 338A is the cover sheet for the Standard Industrial Classification Manual 1967. CX 338B is the definition for SIC 2813, industrial gasses. CX 337A is the coversheet for Volume 2, Part 1, of the United States Census of Manufactures for 1958, Industry Statistics. 337B and CX 337C lists the categories reported by four digit SIC number, and five digit and seven digit. CX 37D also gives the foot notes, for that manual.

CX 339A is the cover sheet for the Standard Industrial Classification Manual 1972. CX 339B gives the definition within that manual for industrial gases, SIC 2813.

CX 340A is the cover page for Standard Industrial Classification Manual for 1945. CX 340B is the definition for SIC 2896, which was the predecessor to 2813 for compressed and liquid gases.

CX 341A is the conversion table -- is the cover page for Standard Industrial Classification, Conversion Table of

Manufacturing INdustries From 1945 Edition to 1957 Edition by the Bureau of the Budget. And this was prepared in June 1957. And CX 341B shows the conversion from 2896 to 2813.

JUDGE BARNES: Any objection to the exhibits?

MR. TOPKIS: I couldn't imagine objecting to it, your Honor, I may one day understand it all.

JUDGE BARNES: All right. I will receive on the basis of official notice the exhibits which complaint counsel has identified.

MR. THURMAN: Just a moment, your Honor.

JUDGE BARNES: And these are Commission Exhibits 336A and B, 337A through D, 338A, B. 339A, B, 340A, B, 341A, B.

XXXXX (The documents referred to, CX 336A through 341B, were received in evidence.)

Anything further, Mr. Thurman?

MR. THURMAN: Yes, your Honor. The matter is that we have an outstanding subpoena of Stanford Research and [illegible]s not returned on it yet. I believe the time was too short. Supposedly it was being put in the mail the day before yesterday.

JUDGE BARNES: Day before yesterday. That would have been Tuesday.

MR. THURMAN: Tuesday.

MR. TOPKIS: I was told that they mailed it on Monday to your Honor. And I was also told that they hadn't received a subpoena as of that time, but they were being terribly cooperative.

MR. THURMAN: So we may want to introduce something from that document.

JUDGE BARNES: Well, it may be in the mail this afternoon to me, I don't know. Can you tell us basically what is being sent?

MR. THURMAN: Studies referred to by Dr. Kridl to back up his expertise.

JUDGE BARNES: And anything else?

MR. THURMAN: Supposed to be back-up documents.

JUDGE BARNES: The back-up documents to the study?

MR. THURMAN: Yes.

JUDGE BARNES: Also I believe there were the correspondence between the company requesting the study and Standard Research as to the nature of the study.

MR. THURMAN: Yes.

JUDGE BARNES: Now what, any suggestion on, in the event you want to place something in evidence from that, is that correct?

MR. THURMAN: Yes.

JUDGE BARNES: Well, we will leave the record open for that one purpose. And I suggest then when you get the documents or when I get them, I will turn them over to you. If you decide to use any, you give Mr. Topkis copies and hopefully we can receive them through an order.

MR. TOPKIS: Sure.

MR. THURMAN: Now, I forgot one item; maybe I should bring it to your Honor's attention.

JUDGE BARNES: You certainly should bring it to my attention, yes, at this time.

MR. THURMAN: I was told by general counsel they were going to mail it provided they didn't get any objection from whoever they were performing the study for. And if they have objection to that, they might move to limit or quash. So, I can't say positively it was put in the mail at that time.

JUDGE BARNES: Well, if they move, I can consider that and also I will consider it in the light of Dr. Kridl. I did not make that consideration at the time I ~~wished~~ issued the subpoena, but we will work it that way. If documents are returned, and complaint counsel decides to use any, copies will be furnished to respondents' counsel, and hopefully the issue can be resolved by an order and we won't need any further hearing.

So, is there anything else, Mr. Thurman?

MR. THURMAN: We have nothing further, your Honor.

JUDGE BARNES: Anything further, Mr. Topkis?

MR. TOPKIS: No, your Honor, we are done.

JUDGE BARNES: All right. We will set a date for proposed findings. The normal time permitted is 90 days between the close of the record and the initial decision. I am hopeful that we can shorten this to some extent.

MR. TOPKIS: Your Honor has already, I think, set out a timetable for us. July 26th, I think, was the date you set.

JUDGE BARNES: Did we do that before?

MR. TOPKIS: Yes, your Honor.

JUDGE BARNES: How about reply briefs?

MR. WOLLEN: Ten days.

JUDGE BARNES: Ten days from there?

MR. TOPKIS: Yes.

JUDGE BARNES: All right, that would make reply briefs due ---

MR. WOLLEN: August 5.

JUDGE BARNES: August 5th.

MR. TOPKIS: Right.

JUDGE BARNES: All right, we will, prepared findings will be due July 26th, replies due August 5th.

MR. TOPKIS: Right.

JUDGE BARNES: And I am going to close the record. Well, I will not officially close the record until we get a ruling on the Standard Research documents, but otherwise, that is the only thing.

MR. TOPKIS: That is the only thing that is open.

JUDGE BARNES: All right. Thank you very much for your cooperation. We will adjourn the hearings.

(Whereupon, at 12:45 p.m., the hearings in the matter were adjourned.)

End EH